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ORIGINAL ARTICLES.

THE NEW PHARMACOPŒIA.

Read in the Section on Materia Medica and Pharmacy, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

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The wide-spread interest in the last revision of the United States Pharmacopœia, both in this country and abroad, and the fact that the AMERICAN MEDICAL ASSOCIATION and the American Pharmaceutical Association are especially represented in the Decennial Convention for revising the book, seem to be good reasons for the presentation in this Section of certain information regarding the work which may be of especial interest to physicians. The Convention which met in Washington on May 7, 1890, was by far the largest and most representative body ever assembled for the purpose of revising a National work of this character. All incorporated universities, medical and pharmaceutic colleges, medical and pharmaceutic State Associations and bodies connected with both professions with the United States Army, Navy and Marine Hospital Service sent delegates to prove the interest which existed in providing a representative and authoritative guide for the selection and preparation of the armamentarium of the physician. The most important change recommended by the Convention was the entire abandonment of the antiquated, confused and unscientific system of weights and measures which has harassed the souls of pharmacists and physicians for centuries, and the acceptance of the metric system with the principle now thoroughly established in English-speaking countries of weighing solids and measuring liquids. This change received the almost unanimous vote of the Convention; the previous convention having largely paved the way for the action by adopting the principle of parts by weight in the Pharmacopœia of 1880. The fears that many expressed at the time, that the Pharmacopœia would not be accepted by pharmacists because of the introduction of the metric system have fortunately not been realized; there have been up to this time many more of the books disposed of than in any previous revision, and every day witnesses an increase in the number of pharmacists using the metric system in making preparations. There can be no question of the ultimate acceptance of the metric system, for its simplicity, conciseness and freedom from confusing characters must finally win the support of all.

The action of the Convention in excluding from the book those synthetic remedies which can not be produced otherwise than under patented process, or which are protected by proprietary rights has been probably more criticised from a medical point of view than any other.

It is difficult to convince those not engaged in commercial pursuits and not understanding the principle involved, of the evils which would follow if official sanction were bestowed on the immense number of remedies now exploited, and at present in favor with the medical profession. America has proved easy prey for the synthetic operations of European chemists who have flooded the country with their products which in many cases have realized enormous profits to the monopolies controlling them. One of the principal objects of a Pharmacopœia is to establish standards, to prove the identity and purity of the substances admitted; in order to make such operative, it is necessary to have more than one source of supply or manufacture. The manufacturer controlling a specialty is a law unto himself and can change the standard of purity of his product whenever he wishes. If the Pharmacopœia were to admit a proprietary remedy, and fix a standard of purity for it, and the manufacturer to suit any purpose that he might have in his mind chose to market an inferior product, no redress whatever could be secured. With all other remedies not so controlled, a preparation not conforming to the official standard may be rejected and a purchaser can buy a better article from other sources, but in the case of patented or proprietary substances the maker's authority is greater than that of the Pharmacopœia, and it would be a case of "take what I give you, or go without." If the Pharmacopœia of 1890 had given its official sanction to 50 synthetic remedies in common use, the Pharmacopœia of 1900 would probably have to admit 500 of equal standing, owing to the precedent having been established. Those who use proprietary specialties must take them on the *ipse dixit* of the maker, and stand or fall by what he chooses to give them.

The new Pharmacopœia contains now nearly 1,000 articles, 92 which were previously official having been dismissed, while 89 new ones have been introduced; the duty of deciding the admission and dismissals devolved upon the members of the committee who were physicians, it being the opinion of the general committee that they were the best judges of the relative importance and value of the various remedies in common use, while the pharmacists were better able to establish the standard of purity and contrive the formulas for the various preparations of the drugs which the physicians had selected. It will be readily conjectured that it was no easy task to determine upon the articles to be admitted and place the ban upon others which the march of progress had doomed to dismissal. To aid them in arriving at just conclusions, reports had been presented to the previous committee from various parts of the country, and from a number of incorporated medical and pharmaceutic bodies throughout the United States, and although a criticism like this is occasionally heard from a physician: "I never used in my life such

and such an article," it will undoubtedly be found that the substance in question is placed in the Pharmacopœia because it was shown to have been in demand in some part of the country; and the name on the title page of the book: "The Pharmacopœia of the United States of America" must be constantly borne in mind, for if this title is to be justified it must represent the demands of the whole country and not those of one particular section.

The history of the remedies in common use would, if written, contribute many pages of interest to members of both professions; many galenical preparations, for instance, trace their origin from some favored prescription of a well-known practitioner. A particular combination of remedies proving valuable to a physician is communicated to some of his friends and before long it has a local reputation; in time this extends beyond the city or town and it may, before its life-work is over, enjoy the distinction of admission to the National authority. Having been accepted in this way, it must not be supposed that its time of probation is over; it can not be said of it, in the language of the poet-laureate:

"Men may come and men may go,
But I go on forever."

A preparation remains in the Pharmacopœia only as long as it proves useful and until it is displaced by something better, but it often happens that preparations which have been of great service in the past and have been replaced in the more progressive centers of therapeutic knowledge can not be safely dismissed from the Pharmacopœia because of their extensive use in other parts of the country, which have not yet thrown off the old and taken up the new. These considerations must be taken into account before condemning the admissions or rejections. It is not within the scope of this paper to refer to that portion of the revision which especially concerns pharmacists, yet even a cursory examination of the work would indicate the amount of labor expended upon the chemical descriptions, assays, the experimental work upon the strictly pharmaceutic preparations and the botanic researches. The committee have been guided by a conservatism which, while holding fast to the proved and the true, has not been so obstructive as to prevent the acceptance of progressive subjects where these were justified by results.

It will doubtless be a source of congratulation to the members of this Section to know that financially the work has been equally successful, the plan of having the committee publish the work at its own expense, and then putting the price at as low a figure as could be afforded has had the effect of largely increasing the use of the book, and a sufficient balance has been left in the hands of the committee to expend for research work and for settling a number of mooted points for the next revision.

In concluding this brief summing up of the work performed in the revision of the last Pharmacopœia, it will not escape the observation of the members of this Section that the successful character of the work which has been done proves the necessity for the continued effort of those who have been laboring for years for closer scientific and professional relations between physicians and pharmacists; during the whole time of revision entire harmony has existed; the opinion of the majority has always prevailed, but the minority have always been given a respectful hearing and, in almost every case, after thorough consideration was given a subject under discussion the minority cheerfully joined the majority. If such results proceed from the work of a committee, composed almost equally of physicians and pharmacists in a work of this important character, the question may be most pertinently asked: Why can not physicians and pharmacists solve in the future the many perplexing problems which confront both professions, by adopting the methods used in the revision of the Pharmacopœia of the United States of America?

THERAPEUTIC ACTION OF POTASSIUM PERMANGANATE.

Read in the Section on Materia Medica and Pharmacy, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

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In bringing this subject before the Section it is not the object or aim of this paper to consider the relative value of this salt, but to present a summary of how we stand in regard to the advantage which may be derived from the application of it to the cure of disease. Singleness of action in a drug is as valuable as singleness of purpose in a man. The profession has become tired of empiricism; it is anxious to know the pathology of disease, because its therapeutics can then become rational.

Permanganate of potash is, as you all know, a dark purple prismatic crystal, freely soluble in water, forming a rich purple solution. It is often objected that permanganate of potash is so quickly decomposed on coming in contact with organic matter that its action is feeble and transitory; this objection can not be maintained, as in reality a very definite influence is exerted on the blood. When it is injected locally for the bite of a venomous serpent the poison is destroyed by a process of oxidation. Given internally in small doses, say two or three grains, well diluted, it exerts no irritating effect on the mucous membrane of the stomach, but if administered in a large dose, or in a concentrated form it produces local heat and a sense of burning pain. It was once stated that it can not act beyond the stomach, because its oxygen must then be appropriated by the organic matter contained in that viscus, but there is good evidence that it does produce a marked systemic effect. The investigations of Binz, of Berlin, and others, have cleared the matter up. Binz, in personally experimenting on the action of this salt, found his respiration deeper and easier, and a general feeling of well-being and exhilaration after medicinal doses, and attributes them to the liberation of nascent oxygen, or rather ozone, during its decomposition. Sydney Ringer and others have shown by their writings, the stimulating powers of this salt. In amenorrhea, due to deficient activities, it promotes the function in a very remarkable degree. It is best adapted for those cases characterized by torpor and anemia.

Dr. Robert Bartholow, in his excellent clinical lecture some years ago, finds as the result of a large practical experience, that it is best given in the form of compressed tablets without any excipient. A small dose repeated at short intervals, a grain or two every half-hour until four to six grains have been

taken, is preferable to this quantity at one dose. When made into pills, care should be taken not to combine any vegetable or animal ingredient.

Permanganate of potassium is contra-indicated whenever an acute congestion of a general condition of sthenic reaction exists. It is obvious that a power which can stimulate the sexual apparatus, must when exerted in other directions, prove equally effective. From its irritating effect it must not be given in acute gastritis, but will be found of great value in chronic gastric and gastro-intestinal catarrh, accompanied by fermentative changes in the food. Eructation of gas and vomiting of yeast-like material are promptly relieved by the administration of this salt. The permanganate checks fermentation of food elements prone to this process. It promotes oxidation in the tissue undergoing metamorphosis. According to clinic investigation, uric acid in the urine is converted into urea. Physiologic deduction has shown that it is of great value in lithemia; the hepatic form of glycosuria.

Dr. Bartholow states that there is no remedy more effective for obesity and digestive disorders than this salt. I have myself, (some years ago, when in general practice) used it in functional amenorrhea with brilliant success. I have also found it excellent in catarrh of the bladder to wash out that viscus. For the qualitative analysis of drinking water we found it an excellent companion when on the march in the East Indies; by adding a few crystals of this salt to the suspected fluid, it confirmed the information when the drinking water contained organic matter, by turning it of a reddish dirty color. As a bath in skin disease, it is found to act with great benefit, 1 gram to one bucket of water. It is of great value as an antidote in phosphorous poisoning. It acts by coming in contact with the phosphorus in the stomach and converting it into ortho-phosphoric acid (Bokar). As an antiseptic it is more desirable than corrosive sublimate, because it is non-toxic and has great oxidizing power and is a true disinfectant.

Recently, Dr. Moor, of New York, in the *Medical Record* of Feb. 17, 1894, publishes his clinical experiments. According to his views, morphin is rapidly oxidized by the permanganate even in the presence of peptones and albumen. He pronounces permanganate of potash a reliable antidote for morphin. He gives .60 to .90 dissolved in half a pint of water, repeated at intervals of thirty minutes. Cases are reported in the same journal from different parts of the country in which permanganate of potash is employed hypodermically. In the *Medical News* of May 5, 1894, a physician from Pittsburg, Pa., reports a case where a patient had taken two ounces and a half of laudanum, of unknown strength, three hours before admission to the hospital. In addition to the usual treatment including coffee, hypodermic injection of atropin, artificial respiration and so on, and when the case seemed hopeless, repeated injections of a half saturated solution, in doses of 8 grams were administered at intervals of half an hour; after the fifth injection the patient recovered. No doubt if such a powerful oxidizing agent as potash permanganate is brought in contact with morphin a mutual destructive reaction would take place, but the question arises does it follow into the blood after the morphin is absorbed? Can it have a physiologic as well as a chemic action?

Since writing my paper, I read an editorial in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION for May 19, commenting on Dr. Moor's article. It states that "it is possible that when hypodermically administered although decomposed in the tissues, the nerve centers may be influenced by some of its products, but even so, it would not be permanganate *per se*, but something else that does the work."

"VIBURNUM PRUNIFOLIUM."

Read in the Section on Materia Medica and Pharmacy, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY H. R. HOLMES, M.D.
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It has been said that drug medication is a popular delusion of the nineteenth century. In these days of polypharmacy, the value of a single drug can not be always satisfactorily decided. The commerce of drugs, too, suggests so rapid an introduction of new remedies that even the names of many are quickly forgotten.

It is rare that a remedy is discovered which will occupy an entirely new place in therapeutics. The reliable effects of remedies now being introduced and those, the actions of which are yet to be studied, will be proven, and yet seldom may it not be said that these can, at best, but substitute those whose offices have been faithfully fulfilled for long periods of time. Since we have so many drugs credited with such similarity of action surely choice will ramble, hence the reason that the true value of some of our most valuable remedies is at times not strongly emphasized.

Cerna considers viburnum prunifolium briefly among the new remedies and it may appropriately appear here, for Bartholow in his "Materia Medica and Therapeutics," published in 1886, neglects its mention, and H. C. Wood in his exhaustive treatise on "Materia Medica and Therapeutics," published as late as 1889, leaves it out entirely.

Although Dr. Edward Jenks in 1876, published his observations on "The Influence of Viburnum Prunifolium in Diseases of Women," and although before he had written of it, it had really only a reputation in preventing abortion, he invited the attention of the profession to its great value in all uterine disorders characterized by the loss of blood.

It is not my purpose to consider viburnum prunifolium or black haw botanically, more than to say that it is a beautiful shrub growing about as large as the common osage orange, and is said to flourish in the Southern States, east of the Mississippi, but it does not grow sporadically on the Northwest Pacific slope. Like the cinchona tree, the bark is the part which yields the medicinal virtues. It has a specific action on the female reproductive organs and is anti-menorrhagic and anti-metrorrhagic. Infusions and decoctions may be used, but in these days of refined chemistry there is a fluid extract which requires no further recommendation than its simple mention. Parke, Davis & Co's. fluid extract is the preparation which I have mainly relied upon, but their compressed pills and tablets of the solid extract have also attracted my notice, and I shall proceed to prescribe them, providing they prove particularly pleasant to the palates of patients.

The liquor sedans containg black haw, golden seal and Jamaica dogwood combined with aromatics, is

an excellent preparation, to which in certain cases, ergot may be profitably added.

My practice, all things being equal, is to prescribe black haw to prevent abortion; to control menorrhagia and metrorrhagia from uterine fibroid or edometrial fungosities; as a sedative in ovarian congestion and its ordinary consequences, etc., and too, in almost all kinds of pelvic irritation, congestion and inflammation. May I just here inject the remark that had Hodge, a quarter of a century ago, known the value of our remedy, he would have been gratified by its influence in the treatment of what he termed "irritable uterus." Not willing to suggest to what class this remedy more properly belongs, I desire to consider it from a purely clinical point of view and will proceed at once with the narration of a few illustrative cases:

Case 1.—Mrs. M., age 30; married eight years; called me in January, 1892; had within last six years aborted four times at fourth month; general appearance healthy; about four months advanced in pregnancy; within last two hours had a smart uterine hemorrhage as was usual about this period in her gestations. Ordered patient to bed, and prescribed a drachm of fluid extract viburnum every hour until three doses were given. Within three hours all hemorrhage had ceased; a week later the patient was walking about, taking a dose of her medicine three times a day, which she continued about a week longer. Two months later patient had another similar attack with similar result on same treatment. The forward march of her gestation was without remarkable event, and in June following she was delivered of a healthy male child.

Case 2.—Mrs. S., age 29; married one year; called March, 1893; had metrorrhagia for three years to the extent of keeping her in bed half the time. Thorough examination resulted in diagnosis of submucous fibroid of uterus, size of hen egg. Squibb's fluid extract of ergot was given ʒj, *ter in die* for two months, while patient was kept in bed with very little perceptible effect on quantity of flow. A drachm of fluid extract of ergot with the same amount of liquor sedans being prescribed daily the patient who had been bed-ridden for half the time for nearly three years, within a fortnight was able to be up and about and is now enjoying what she calls good health. At menstrual times the flow lasts four days and is about right in quantity. Sometimes when undergoing unusual fatigue about menstrual time, the flow increases although the remedy has excepting then been discontinued. She has learned on such occasions to rely on her tonic as she terms it and so far it has checked any undue freedom of flow. So much for viburnum prunifolium so far in this case. To be sure this patient may in time to come need Apostoli's electrical treatment; she may require oöphorectomy, or Martin's operation of ligation of the uterine arteries, or hysterectomy, but these propositions are at least deferred.

Case 3.—Mrs. B., age 22; consulted me August, 1892; began menstruating while racing for a prize at college six years ago and eight months following a severe spell of scarlet fever. Soon after, though her memory is not precise on this point, she found herself irregular in her turns and has been so ever since, but for the last three years has flowed very freely about every three, four or five weeks; the period lasting usually as long as eight or ten days. Examination shows a retro-displaced uterus, a granular erosion about the os uteri, a conoidal cervix and pruritis ani. Patient was advised to take ether and allow the conoidal cervix to be treated surgically as well as the endometrium to be curetted, for chronic endometritis had been diagnosticated and dilatation of the sphincter ani was also proposed. However, as the extremly nervous state of the woman made her regard any mention of operative procedures with intense dread, she was put on the following prescription:

R.	Ext. ergot fld	ʒvj	24
	Ext. vibur. prun. fld	ʒjj	64
	Tr. nucis, vom	ʒjj	8 M.

Dose: A teaspoonful three times daily. Within three months a steady improvement had announced her relief from anemia; menstrual flow was not excessive or painful; the rectal congestion and pruritis ani had subsided. Early in 1893, Mrs. B. became pregnant and in November was delivered of a healthy male child. The sphincter ani and recto-vaginal septum for an inch and a half above it were torn. These have, by surgical interference, been repaired and the patient appears to be in good health.

Other cases could be cited, but the variety brought forth, it is hoped, will serve sufficiently to illustrate the therapy of this valuable remedy.

SOME OF THE USES OF CHLORALAMID.

Read in the Section on Materia Medica and Pharmacy, at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY CHARLES C. BROWNING, M.D.
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So many excellent and exhaustive articles have been written regarding the use of chloralamid since its introduction, that I will confine myself to a brief mention of observations in regard to a few conditions in which it has been reported of value to others and proven as such to myself. In one condition I go more into detail, because I have not seen a report of its having been used in this condition by others. Its utility is favorably reported in several conditions not herein mentioned.

I began the use of chloralamid in 1890 while a member of the medical staff of the New York City Asylum for the Insane, and have used it with satisfaction in the following conditions, viz., neurasthenia, hysteria, pleuritis, phthisis, typhoid fever, melancholia, mania, dysmenorrhea, epilepsy and disorders due to organic diseases which were not accompanied by an extreme degree of nervous excitement or pain, especially in diseases of the digestive and genito-urinary systems. I have also used it with good result in irritable condition of the nervous system due to cigarette smoking.

I have frequently had it happen, that in cases of neurasthenia several nights' sleep would follow the administration of a single dose.

In typhoid fever I have found it especially advantageous on account of the absence of any depressing influence on the circulation, and it was suggested by Dr. Clevenger, of Chicago, in a paper published in the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION, March 10, 1894, that we have "an almost wholly nutrient hypnotic in the compounding of chloralamid,"—that is, one which supplies material which has been exhausted in the nerve centers. This quality materially adds to its usefulness in a disease accompanied by such great exhaustion. I have seen convalescence established after a few hours' rest procured by a single dose, when other drugs had failed in doses which were regarded safe. The delirium which had previously existed would be absent on awakening, the temperature reduced, the pulse approaching the normal and sleep would again come without the aid of hypnotics.

In melancholia accompanied with hallucinations which produce only a mild degree of excitement, and in the mild forms of mania, chloralamid has proved useful in my hands.

In these cases, which had frequently required some hypnotic every night for a long time, or get no sleep during the night, I have been able after using chloralamid for several successive nights, frequently to suspend its use for several nights and the patient still sleep well. In most cases I have at least been able to gradually reduce the dose. In cases where I have used it for several months continuously, I have noticed no ill effects on its withdrawal. This class of cases usually require from 30 to 40 grain doses. In

cases of melancholia with frenzy and mania, cases attended with much excitement, chloral hydrate is more satisfactory on account of its more rapid and decided action.

In nervousness accompanying disorders of the uterus and its appendages, I have found 10 or 15 grain doses taken after each meal to reduce the nervous irritability during the day, and rest at night to follow without any unpleasant symptoms.

I have not had opportunity to test its curative powers in the treatment of epilepsy, although its use in this connection has been suggested. However, I used it in one instance in which it appeared to exert marked influence in controlling the seizure; a summary of the case will give a better idea of the results obtained:

Patient, female; age 42 years. Was in the epileptic ward of the New York City Asylum for the Insane. Had been an inmate of the institution for seven years. Had been subject to epilepsy since childhood. Convulsions usually occurred in groups of ten or twelve in twenty-four hours, after which she would not be affected for several days or weeks.

Jan. 15, 1891, had nineteen convulsions which always began on the right side of the face, extended successively to the right side of the neck, right arm, right lower limb and finally became general. They were always accompanied by a cry and complete loss of consciousness. The pupils remained unchanged. The character of the convulsions was such as to point to cortical irritation. January 16, there occurred sixty-one convulsions of the same character as above described. After about forty-eight hours the convulsions were confined to the right side of the body. This continued three days longer, after which they were confined to the right side of the face and neck. While the convulsions had become less extensive they had become more frequent in spite of numerous remedies employed, until the 25th inst., when between the hours of 7 o'clock A.M., and 7 P.M. there occurred 159 convulsions. During this day she took 2 drachms of chloralamid in six doses. That night she slept from 8 P.M., until 6:30 A.M., and had no seizures. The pulse and respiration were normal, notwithstanding her exhausted condition.

On awakening the convulsions reappeared with less frequency at first, but gradually became more frequent until during the twenty-four hours from 7 P.M. of the 28th inst., until 7 P.M. of 29th inst., there occurred 447 seizures. Patient was very much exhausted and as she would partly regain consciousness, would murmur, "so tired, so tired." Chloralamid was again administered. This time half drachm doses were given every six hours. After the second dose she slept about one hour, during which time the convulsions ceased. They commenced immediately on awakening. After third dose she slept three hours. After sixth dose the patient slept six hours, until awakened. The chloralamid was continued every six hours in same doses. On being aroused would answer questions rationally, say she had had a good sleep and was getting rested. Continued to have convulsions when awakened which grew lighter and less frequent until February 3, when they ceased, having had 3,242 convulsions in eighteen days. After resuming the use of chloralamid the convulsions occurred as follows, to wit: On the first day 168; the second 143; the third 95; fourth 22. She was kept sleeping continually three days longer, making five days in all, she had slept, excepting when aroused every six hours.

At no time was there noticeable any depression of the circulation or respiration. She would at all times answer questions rationally, eat what was prepared for her and attend the calls of nature when aroused. Secretions appeared normal. About twelve hours after taking last dose she awakened of herself. Complained of slight headache. Was drowsy during the day and slept well the following night. Next morning awoke feeling refreshed and rapidly regained her former health.

I have not had opportunity to again test the drug in this manner as I was compelled, on account of ill health, to sever my connection with the institution, and have since been able to engage in practice to a very limited extent until recently.

Much depends on the manner of administration of chloralamid, and to this may be attributed a portion, at least, of the disappointments experienced by some in conditions which have been reported favorable to its use by others.

The dose as generally stated is from 1 to 3.50 grams for adults. I most frequently begin with a small dose and increase as I find necessary to produce the desired effect. Sleep usually follows the administration of the proper dose in one or two hours and is of six to eight hours' duration. If a feeling of lassitude follows, it is probable that a smaller dose will suffice and be free from any unpleasant symptoms.

It should be administered dry only when stomach digestion is good. It should then be given in a fine powder, not in the crystals in which it occurs in commerce, and immediately after the ingestion of food, while the contents of the stomach are acid.

Good results have been obtained by administering it with an alcoholic beverage during the interim of digestion, but this mode is less reliable. When administered in powder it should be placed dry on the tongue or in capsule and washed down with water, whisky or wine. The only advantage in giving it in powder is to avoid the taste, which is neither very disagreeable or persistent.

The preferable manner of administration is in solution. It may be dissolved in alcohol in proportion of 1 grain to 1½ minims. It is slowly dissolved in water and more readily in water to which about 3 minims of dilute hydrochloric acid to each 1 gram of chloralamid to be dissolved has been added. These solutions may be diluted with water or other agreeable vehicle for administration. In no case must it be dissolved by aid of heat or administered in hot liquids. It is incompatible with caustic alkalies and the alkalin carbonates.

As compared with chloral hydrate, it may be said that chloral is more rapid and powerful in its action and is to be preferred in cases attended by extreme degrees of pain or nervous excitement, notwithstanding its well-known disadvantages. Chloralamid is safer, less disagreeable to the taste, free from disturbance of the circulatory and digestive systems, and free from depressing after effects. Sulfonal is followed by more languor and general depression.

In conclusion, I desire to quote approvingly from the excellent paper of Dr. Clevenger before referred to, regarding its hypnotic action:

"It would be folly to expect that any single remedy for insomnia would be available in all instances, for just as sleepless states may be caused by any of the multitude of maladies to which the body is liable, so must there be numerous appropriate measures of relief, when relief is at all possible. The advice, to seek and remove the cause of sleeplessness is sensible enough, though in too many instances the cause is only conjectural. Nevertheless, a rational system of hypnotic use can be secured on a physiologic basis, and with far more satisfactory results if we duly regard the cause of the loss of sleep and existing bodily conditions. For example, a dose of ergot in some hyperemic states may relieve pain or cause sleep by lessening the vascular tension upon which these disabilities depended. A hot bath may distribute the circulation and act derivatively upon organs which, when congested, caused the distress and wakefulness. Massage acts similarly when scientifically applied, and when unskilfully made use of may add to the discomfort; for example, if derivation from the head is set up by massage it will

relieve cerebral hyperemia, but add to cerebral anemia, so this method must be resorted to with full knowledge of the physiologic results aimed at.

"In a general way, we may classify hypnotic action as accomplished by derivation, such as by removing irritative quantitative causes; by elimination of quantitative or qualitative causes, as of some toxic agent; reconstructive action by re-supplying parts in states of defective nutrition; sometimes by minimizing activity until rehabilitation can overtake waste with supply; by restoring normal function as with digitalis or alcoholics. The least desirable of all methods being such as merely stupefy and overload the circulation with effete or poisonous material through interfering with elimination, or by destructive changes induced in nerve tissues or the blood upon which the nerves depend for sustenance.

"So eliminative functions should be kept in good repair, if possible, when almost any kind of a hypnotic is given, particularly such as are likely to add some toxic material to the system; but the ideal sleep procurer would be one that abstracted nothing from the nervous system that it contained normally, nor added thereto anything deleterious; and as sleep is a process of repair or feeding of the nerves and their ganglionic centers, still more effective would be whatever caused sleep by repair of such waste; and unless credible evidence to the contrary appears in the course of time, we are in possession of such a hypnotic in chloralamid."

PRESCRIBERS AND DISPENSERS.

Read in the Section on Materia Medica and Pharmacy at the Forty-fifth Annual Meeting of the American Medical Association, held at San Francisco, June 5-8, 1894.

BY W. M. SEARBY, PH.C.

SAN FRANCISCO.

The courteous invitation given by the AMERICAN MEDICAL ASSOCIATION to the American Pharmaceutical Association to be represented by delegates at this important gathering and the further courtesy of requesting some of these delegates to read papers, would seem to indicate a generous out-stretching of the hand on the part of your ASSOCIATION toward ours. On behalf of the American Pharmaceutical Association I accept, therefore, the proffered hand, and reciprocate the desire for more cordial relations between these two branches of science and art—medicine and pharmacy. And I avail myself of this opportunity to make an effort in the direction referred to; for it is not to be denied that, while professedly friendly, and actually so in the main, there is yet a good deal of friction at certain points, and unfriendly remarks are sometimes heard, and ungenerous actions undulged in by members of these two great bodies toward each other. Occasionally these expressions find their way into the journals, but more frequently they are not out-spoken and therefore can not be replied to by the party who might feel aggrieved thereby. The proper way to deal with wrongs, real or imaginary, is to look at them dispassionately and if possible to let the injured parties meet and frankly discuss whatever differences there may be between them.

Medicine and pharmacy are so dependent upon each other that they should go hand in hand, and should not allow minor differences to alienate them from each other. It has seemed to me that of late the tendency has been more than ever towards an unfriendly feeling between the members of the two professions. Physicians of prominence are known to be so inimical to pharmacists, as to openly advocate doing away with drug-stores altogether, and I have heard pharmacists, accomplished men, who for a life-time have scrupulously kept those ethical observances which are due to physicians, declare that in their opinion doctors cared nothing for druggists and would "down" them if they could. Recently a prominent medical journal has thrown out a hint that doctors might stock their offices with ready-made prescriptions as a kind of retaliation upon druggists for prescribing. As an offset to this, graduates in pharmacy finding that they can not obtain their share of prescription business without paying commission which they can not conscientiously do, are taking degrees in medicine in order to practice both professions, still further crowding medicine without relieving pharmacy. It seems to me that this tendency from two opposite directions, to unite the practice of medicine and pharmacy in the same individual is a retrogressive movement; and I venture to suggest that a more dispassionate view of our respective grievances is necessary if we would check the evils of which we complain.

Let us consider, then, in the first place, who should prescribe medicine? Upon this point there can be no two opinions. The physician by his knowledge of *anatomy*, *physiology*, *pathology*, and the other branches of medical science in which he has been educated, is the only competent person to diagnose disease and to prescribe treatment. But is he the only one who does prescribe? By no means. Many people prescribe for themselves, and if they are told the same truth concerning medicine, that has become proverbial as applied to law, namely, that he who is his own doctor has a fool for his patient, they are apt to become indignant and reply that they know what they are about. There is another large class of persons who take pleasure in prescribing for their friends, and these persons again can not be made to believe that, so far as the case in hand is concerned, they do not know more than all the doctors. The evils of such prescribing as this can not be reached by codes of ethics or by any measure of reform instituted by physicians and pharmacists.

But there is a certain amount of prescribing done in drug-stores by men who lay no claim to a medical education, and whose practice in this regard can not be defended. Reputable pharmacists, as well as physicians, are anxious to see this irregular practice abated, as it is an infringement upon the province of physicians and therefore unfair, and also has the effect of lowering pharmacy in the esteem of the public as well as of physicians. In what way can this counter-prescribing be lessened? I suggest in the first place that it can not be checked by scolding or by retaliation, but rather by cultivating more cordial relations between the two professions, and by a certain degree of concession on both sides. It is to be borne in mind that any retaliatory measures adopted by physicians in this matter will affect the reputable pharmacists who are not doing the counter-prescribing, while those who are transgressing will not be affected thereby.

It is not to be forgotten in a discussion of this question that some physicians are inordinately sensitive on this subject, so they would prohibit the dispensing of almost all drugs and medicines that are

not ordered by physicians. Whatever our views of the case may be, whether we like it or dislike it, the fact can not be denied that the American people will not submit to such stringent regulations. You can not compel an American citizen to employ an architect when he wants to build a dog-kennel. In regard to the use of drugs and medicines they feel themselves free to consult a physician or not, according to their own judgment, and can not be driven into it, by the combined efforts of all the doctors and druggists in the country. Again, those who have had much experience behind the counter in a drug store, will bear me witness that even when there is the most conscientious and scrupulous regard for the rights of physicians and the most painstaking adherence to medical ethics, it is still impossible to answer many of the questions that are daily put to the druggist in regard to the nature, property and doses of medicines without appearing to suggest the use of certain ones in specified cases. Not only is the druggist consulted in regard to disinfectants, antiseptics and many other hygienic and remedial agencies, but his opinion is frequently asked in regard to the nature, use and doses of drugs, the best method and time of administration, etc. A refusal on his part to give the desired information would be attributed by the majority to ignorance, and by the remainder to boorishness. As a business man he can not afford to allow his patrons to leave his store with any such misapprehension concerning himself or his establishment. Furthermore, there are a few slight ailments which the public absolutely expect a druggist to prescribe for, which do not partake of the nature of medical treatment, since the patient diagnoses his own case, such for instance, as a morning headache, slight bruises or trifling injuries; in fact, any such ailments as people are in the habit of prescribing for themselves. The druggist, when requested, is expected as a matter of course to suggest a remedy, and there is no more thought of medical treatment than when a bar-keeper mixes, a "pick-me-up," or a shoe dealer selects for you a shoe that will not hurt your corns. When physicians interpret ethical relations so rigidly as to prohibit druggists from performing these trifling courtesies for their customers, they widen the breach between the two professions, having no experimental knowledge of the injury the pharmacist does himself if he declines to render this service. The conscientious druggist is between two fires. On the one side are customers expecting information which he could readily give, and abundantly satisfied that any advice he might offer would be given rather as a friend than as a medical adviser. On the other side stand the medical profession jealous to a degree, lest by giving any advice whatever he prevent the applicant from consulting a physician. He has to fall back on his common sense, which will lead him to gratify such requests as are reasonable in the direction I have intimated, and yet to avoid assuming the functions of a medical man.

If we now ask the question, "Who shall dispense medicines?" the answer is no less positive than that given to our first query. The pharmacist is the proper dispenser of medicaments. This statement will bear no more qualification than my previous assertion that the physician is the proper person to prescribe. And yet there are circumstances in which physicians may dispense medicine with advantage to themselves and their patients. Common sense again puts in a plea and prevents a too rigid application of the general custom of separating prescribing from dispensing. It is necessary for the doctor in some cases to secure immediate relief for the sufferer, and so the pocket case and hypodermic syringe are his constant companions, more frequently used than the surgical instruments which were formerly his chief or only *vade mecums*. The greatest stickler for the keeping apart of medicine and pharmacy can not raise any valid objection to a physician having in his office or in his residence a few remedies for emergencies, nor is a doctor to be classed among the old fogies because he chooses to control the use by his patients of such drugs as morphin, chloral hydrate and cocain, by dispensing these himself in tablet or other convenient form, so long and so long only as the need of their use exists. Other cases will suggest themselves to the minds of those present, where physicians may advantageously dispense remedies for temporary use. But these exceptions to the general rule do not constitute an argument for the abrogation of the rule itself.

The drift of the times in all professions and businesses is toward specialism. Particularly is this the case in the practice of medicine in which we have almost every organ of the body a subject of special study, and every class of diseases treated by specialists. If the study of medicine is so large, so vast, so difficult, so comprehensive, that no man can accomplish it all, why should the physician seek to add to his already over-burdened curriculum a knowledge of pharmacy? Medicine can not be correctly dispensed without an underlying knowledge of chemistry, pharmacognosy and pharmacy to a degree that is quite beyond the attainments of the average physician, I think I might say, of any physician, who at the same time keeps himself abreast of the times in his own profession. The sciences upon which pharmacy is dependent are advancing with strides no less marked than those of medicine. Pharmaceutic manipulations and processes are continually being improved, and these improvements are largely dependent on a better knowledge of organic chemistry and of the constitution of drugs. Busy pharmacists even find it difficult to keep pace with the times both in these branches of knowledge and in the improved methods of administration; how then shall a physician, already overburdened with his practice, keep himself up in these studies?

Strictly speaking, then, physicians are the only ones who should prescribe. Any deviation from this rule, such as I have hinted at, would only apply to trivial, common, every-day experiences, and the pharmacist should always use his influence as far as he can, not only to avoid prescribing himself, but to dissuade his customers from doing the same. He should seek to check the pernicious habit many persons have of repeating their own prescriptions *ad infinitum*, and particularly of allowing these same prescriptions to be repeated for the benefit of other people, "friends of the family," and so on. A great injury is often done to physicians by this practice, and it must be admitted that where the medicine is not of a dangerous character, such as preparations of cocain, morphin, chloral, etc., druggists are not as careful to prevent repetition as they ought to be in justice to the doctors. Only by a more friendly relation between them can this habit be checked.

But while holding that physicians should do the

prescribing and pharmacists the dispensing, I would call your attention to the fact that much of the prescription-making and compounding is done by a class of persons who are enemies of both physicians and pharmacists. I refer to the large army, which is daily increasing, of proprietors of pharmaceutic specialties. This class of persons are not owners of corner drug stores or physicians in legitimate practice, but wealthy corporations and private individuals who trade upon the weaknesses of humanity, particularly upon those of physicians. Able to command unlimited capital, they hire physicians to act as decoy ducks to bring other doctors within range. Their immense wealth and patronage enables them to subsidize medical journals, if indeed they do not own them outright, and by the power of money and plausible presentations and representations enlist a large portion of the medical fraternity in their service. Playing upon the ignorance of some, the indolence or recklessness of others, they have succeeded in bringing the practice of medicine in the United States to such a pass that the modern druggist's prescription-file is a curiosity, owing to the large percentage of orders for special preparations, many of them of unknown composition, most of them made by unknown processes. If these preparations were any better than those made by the intelligent pharmacist, surpassing the latter either in their purity or elegance, there would be some reason why physicians should so commonly prescribe them; but as a class the articles I refer to are in no way superior to similar preparations made by reputable pharmacists. There is some slight excuse for their prescribing by name certain polypharmic remedies because the trouble of writing out a long formula is of some consequence to a busy man, but the days of polypharmacy are passing away, and many of the prescriptions for special preparations call for one article only. A lazy prescriber is a good subject for the medical drummer, but the latter has a better friend in the ignorant one, who is content to let the manufacturer of pharmaceutic specialties do his prescribing for him. This class of men, with one stroke of the pen write a prescription, copying the directions from the printed circulars with which they are so abundantly supplied. Medical men generally are fully aware that this class of prescribing is injurious to the druggist, whose profit on such prescriptions is no larger than the drygoods man's profit on dress goods, notwithstanding the responsibility the druggist has to bear, arising from the powerful nature of some of these medicines.

I do not wish to be understood as objecting to a physician's specifying the name of the maker of a few articles that are of superior quality to those usually made by good pharmacists, nor to such as by their greater attractiveness in appearance, taste, etc., make them more acceptable to the patient. It is the province of the pharmacist to aid the physician to overcome the repugnance many persons have to nauseous doses and nasty local applications, by preparing medicaments so as to be as agreeable as possible without sacrifice of effectiveness. I am objecting to secret or semi-secret preparations with copyrighted names, and to the thousand and one ready-made elixirs, syrups, solutions, etc., most of which are no better than those made by any good pharmacist. Physicians are not generally aware of the injury they do themselves by sending out such prescriptions. Any druggist who will be candid enough to admit the whole truth will bear me witness that a large portion of their more intelligent customers soon find out that their prescriptions in such cases call for a ready-made compound, the name of which they find some means of ascertaining. Should the medicine prove beneficial, they not only take it themselves on future occasions when similarly affected, but recommend it to their friends. Soon these specialties, which are practically patent medicines, secure a large sale, chiefly through the influence of physicians who were the first to introduce them favorably to the public. When this has been accomplished, the proprietors usually cease catering for the patronage of physicians exclusively, and advertise their wares indiscriminately like any other quack medicines. Thus, in one way or another such preparations as Scott's Emulsion, Fellows' Syrup, Bromo-caffeine, Listerine, Bromidia and many other compounds, some of them harmless and some dangerous, have passed out of the hands of physicians and are bought by persons who use them without medical advice. These are not poor people, but mostly of the well-to-do class, who are able to pay the doctor's bill, and who when sick do not think of asking a druggist for advice.

Now where is the necessity for a physician prescribing such compounds? Does he not know enough of materia medica and therapeutics, of the properties and doses of medicines to select his own remedies? Of what avail is all his instruction in these branches of medical education, if, when he engages in practice he lets the patent medicine manufacturer or the manufacturing pharmacist do his prescribing for him? And of what use to the pharmacist is his education in pharmacognosy, chemistry and pharmacy, if he has nothing to do when putting up a prescription but to count out a few ready-made pills or hand out a bottle of ready-made elixir?

The professions of medicine and pharmacy are both suffering from the inroads that are being made upon them. The outlook for both is discouraging. The young practitioner is shut out from practicing among the poor, by dispensaries and clinics that are now doctoring millions of patients every year, who have no right to claim eleemosynary service of this kind. He can not get practice among the rich because he is unknown; the wealthy preferring to employ eminent physicians for whose services they are well able to pay. So the young medical graduate waits, and waits, often eking out a precarious existence, "living as a gentleman on forty pounds a year." The pharmacist's legitimate occupation is already invaded by the substitution of ready-made pharmaceuticals of every kind, by the free dispensaries and clinics, as well as by the fraternal societies who furnish medical attendance for a song and medicines at cost. Yet, while both professions are already injured and still further threatened we are ready to quarrel over trifles, when we should join hand in hand for material advances against our common foes. Once more, let me plead for a little common sense. Let us stop our quarreling about trifles and come to some agreement whereby, in a general way we can defend and protect each other. Let physicians be careful about prescribing pharmaceutic specialties, let them frown upon the unprofessional puffing which these preparations receive in the medical journals. Let us see that dispensaries and

clinics are not abused, to the despair of the young practitioner and the grievous injury of the drug trade. On the other hand, let pharmacists be more cautious to avoid exercising the functions of physicians by declining to give advice when asked for it, except in most trivial matters. In fine, let physicians and pharmacists observe the Golden Rule, and their relations will be more pleasant and their calling more profitable.

DISCUSSION.

DR. F. E. STEWART, of Watkins, N. Y.,—called attention to the fact that pharmacy as now conducted in this country is a trade and not a profession, and therefore can not be recognized in scientific and professional bodies. It was his opinion that pharmacy should drop all claim to proprietaryship in its preparations; it should publish its working formulæ, and do away with secrecy. When they do this, pharmacists could be recognized as professional men, and secure a standing in scientific and professional circles. He also called attention to a paper of his own on the same subject, entitled, "A New Medical Specialty," published in the *Medical and Surgical Reports* for 1880, or thereabouts. In this paper, he had maintained that pharmacists should graduate in medicine and then practice pharmacy as a medical specialty. If pharmacists would graduate in medicine and practice pharmacy in a professional manner, then they could join the Section on Materia Medica and Pharmacy of the AMERICAN MEDICAL ASSOCIATION, and we would have a Section worthy of the name. Some time ago the *Druggist's Circular* published a paper of mine entitled, "Is Pharmacy a Profession or a Trade?" A prominent firm of pharmacists in Baltimore read this paper and determined to start a pharmacy run on the principles therein enunciated. They did so, eliminating from their business the proprietary medicines, fancy goods, soda water, cigars and other things not belonging to the pharmacy. The success of this firm has been remarkable, and it has secured the indorsement of the entire medical profession of Baltimore.

DR. FRANK WOODBURY, of Philadelphia,—said that there are tradesmen in all professions, and that in pharmacy just now the question is: "Who shall rule; the trademen or the professional men?" He was glad that the American Pharmaceutical Association had accepted the invitation of the AMERICAN MEDICAL ASSOCIATION to send a delegation each year to this Section on Materia Medica and Pharmacy. There had been too much neglect of pharmacy during the past in medical schools. There is even at present such ignorance of pharmacy upon the part of physicians that their prescriptions are the laughing-stock of the pharmacists, on account of the ignorance displayed, both of pharmacy and chemistry. On the other hand, pharmacists exhibit much ignorance of the physician's responsibility by their willingness to prescribe. There are many little things the pharmacists might do to aid patients who come to their drug-stores for help, but when a patient comes in the store and calls the pharmacist "doctor," and asks him to prescribe, he should at once repudiate the title and frankly say that he is not a doctor but a pharmacist, and refuse to take the responsibility. Whether physicians should dispense their own remedies or not, is a question that must be answered by circumstances. The custom of physicians dispensing their own remedies is not an improper one but it has been a failure as the rule, in the large cities, but in the country, where the facilities for dispensing on the part of the pharmacist are poor, it is a different matter. I would have the pharmacists study medicine so that they can appreciate the responsibility of the physicians as prescribers, and then they would do well to refuse to prescribe, but adhere strictly to their specialty of dispensing medicines. This would solve many difficulties. In some countries, the pharmacist and physician is combined, notably so, in Central and in South America. Young graduates in medicine, educated in both departments, might practice both for a time until established, and then branch off into either specialty as the circumstances directed.

The firm referred to by the last speaker have won the respect of the medical profession of Baltimore beyond their expectations. The friendly feeling for this house manifested in that city is a strong argument in favor of the idea that the ordinary pharmacist is an enemy to the physician. In England they prosecute through the medium of the pharmaceutical societies, those pharmacists who prescribe over the counter, the practice being forbidden by law under severe penalties.

SEROTHERAPY; INOCULATION WITH SERUM IN TYPHOID FEVER.

A CASE FOLLOWED BY RECOVERY.

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The treatment of various disorders with toxine inoculations is as yet in its infancy—it may turn out to be a fallacy. It can not be denied, however, that it has in a number of well-authenticated instances achieved remarkable results, and there is sufficient justification for its use, at least in sickness where all the usual remedies have proved unavailing.

When a number of such cases shall have been collected in the literature, establishing favorable effects, this method of treatment will find more general introduction and the statistics of a larger number will then assign it its proper place. This is my reason for publication of this case:

J. F. H., aged 23, after two weeks of prodromal symptoms—headache, general aching, irregular chills followed by short attacks of fever, loss of appetite, was admitted to hospital with a temperature of 103.4, severe headache, loose discharges, heavily coated tongue, roseola over abdomen—a marked case of typhoid fever, result of common infection with twenty others under my care.

After a week of gradual defervescence, the temperature rose to nearly 106, with general aggravation of all the symptoms, especially a large number of alvine discharges, and remained, with slight irregular defervescences due mainly to application of cold and to antipyretics, in the neighborhood of 104 degrees for two weeks. The countenance became pinched and dusky—profuse sweats several times daily—total loss of consciousness with muttering delirium and subsultus tendinum—involuntary discharge of urine and feces. Dissolution appeared only a question of hours.

The treatment had been the usual one, successful in twenty other cases of the same epidemic, excepting one case of perforation.

In this extremity I determined to give the patient a chance with inoculation of serum, as reported by W. E. Hughes and W. S. Carter in their paper on "Injection in Pneumonia and Typhoid Fever of Serum from Convalescents," in No. 6 of the *Therapeutic Gazette* (June 15, 1894), to which I refer for the *rationale* of the treatment. They report only three cases, of a rather mild type, with injections on the twelfth day, (in two of the cases repeated twice on succeeding days), with steady defervescence resulting.

The serum was obtained either by venesection or by blistering from convalescents, in whom somewhat less than two weeks had elapsed since the end of fever.

I selected a convalescent who, after a typical case of typhoid had been free from any "temperature" for seven days. The skin was carefully disinfected and a blister raised with cantharidal plaster, from which eight cubic centimeters of serum were received into a sterilized test

tube. This was injected subcutaneously in the abdominal skin of my patient.

No immediate marked effect was expected or observed in the general condition, but the temperature rose no more than up to 102, except the second day, when it rose to 102.8, but fell to 100.5; the third day it rose to 103.4 and fell to 100.5; the fourth to 101.8 and fell to 98.4; rose again to 101 on the fifth day, and thereafter with slight changes remained normal. The patient gradually recovered consciousness and is now, nineteen days after injection, although extremely reduced after his fearful ordeal of twenty-seven days of fever, on a fair way to recovery.

This may be a case of *post hoc, ergo propter hoc;* but on the other hand it may be an additional evidence in favor of the toxine treatment.

There seemed to be no agent at work, outside of a dispensation of Providence, to account for this steady improvement at that particular time, and the result appears to be as clear as most clinical observations.

NOTES ON LITHIUM.

BY ENNO SANDER, PH.D.

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ST. LOUIS, MO.

When Augustus Arfvedson, a Swedish student at Upsala, presented to his friend and teacher, the celebrated Berzelius, the new substance that he had separated from the rare granitic mineral *petalite*, found at the mines of Utoë in Sweden and which he had determined to be an alkali, he requested Berzelius to suggest a suitable name for it. After much thought, they finally decided to call it lithium (Greek, *lithos*, a stone), because it was the first alkali that had been obtained directly from the mineral kingdom.[1]

Lithium, symbol *Li*, the elementary substance, appears as a silver white, soft metal, whose specific gravity is only 0.59 or about six-tenths the weight of water; it is consequently the lightest of known metals. Its chemical equivalent is 7, and its atomic volume 11.9. In the spectrum it is recognized by a beautiful bright red line.

While lithium does not occur free in nature, it is found in a certain class of micas, ingredients in the primordial rocks,[2] in company with its congeners, potassium and sodium. The composition of these micas is more or less definite and consists, in the main, of aluminium, the alkalies (lithium, sodium, potassium, and even caesium and rubidium), small quantities of iron, and manganese combined with silica and fluorine. Where, however, aluminium is replaced by iron or manganese or both of them, phosphoric usually replaces the silicic acid; as, for instance, in amblygonit, lithiophilit, triphylin, etc. The lithia micas which are found in the granitic rocks of New England have been fully described by F. W. Clarke, of the United States Geological Survey,[3] whose report contains also a number of analyses of the most important specimens. They are met with all over the world, although seldom in sufficient quantities to render the extraction of lithium profitable. These granitic rocks become gradually disintegrated under the combined influence of water and the atmosphere with their accompanying gases, and the ingredients rendered soluble by the influences named are leached out, and the solutions stored up to reappear in mineral springs. These, flowing into brooklets and thence into rivers, finally reaching the ocean, permeate the alluvial soil, and from this are taken up by growing plants. From the latter they pass into the animal organism, and thus it is that mineral constituents, like lithium, are distributed throughout nature, organic and inorganic. Sometimes they occur in such minute quantities that their presence is discoverable only by means of the spectroscope, that wonderful instrument by which we are enabled to analyze the light of the fixed stars and declare their constituent elements, though the agency through which the message comes to us, light, may have been thousands of years on its way.

Although the minerals, in which lithium occurs, are found in the primordial rocks of almost every region of the earth, they occur but sparingly, generally in small masses, embedded in the granitic rocks, which carry very small proportions of lithium, from a mere trace to, at the utmost, 10 per cent.

It is not the intention of the writer to enumerate in this paper the various minerals in which lithium has been found, nor to give its percentage in these minerals; however, it may be interesting to the reader to know that a large percentage of them are found in the New England granites; but, as has been stated, in few of them only does the element occur in such quantities as to make them commercially available in the production of lithium salts. The same is true of the most of the European granites. Two of these minerals only appear to be thus available, triphylin and lepidolith. Triphylin is a mineral in which the alkaline and metallic bases are combined with phosphoric acid. It is found in large discrete masses in the granite of Rabenstein in Bavaria, and is easily decomposed and well adapted to the manufacture of lithium salts.[4]

The bases in lepidolith are combined with silicic acid. It occurs principally in the decomposed granitic masses of Bohemia and Moravia. Since its discovery the world has drawn from this source its principal supply of the salts of lithium.

Filsinger[5] describes the processes used by Schering in the preparation of lithium carbonate, including the treatment of the mineral, which are very similar to the methods of H. Müller (see above) and others. The following is a *résumé* of the processes referred to: Lepidolith, pulverized and levigated, is made into a thin paste with sulphuric acid carrying a portion of nitric acid, and the mixture is kept in a warm place, with frequent agitations, until lumps have been formed. Heat is now applied until the free acid is driven off, and the residue is calcined. The mass, while still hot, is leached with boiling water, which leaves an undissolved residue of almost pure silica. The liquid thus obtained is treated with potassium sulphate which, combining with the alumina present, forms crystals of potash alum. The liquor drawn from the alum crystals is concentrated by evaporation during which process alum continues to be formed. Finally, lime is added to precipitate any possible residue of alumina, from which the liquid is filtered off. Barium chloride is now added to the filtrate, and the sulphates present converted into chlorides. The liquid is drawn or filtered off, evaporated to dryness, and the mass treated with dilute alcohol. From this solution the alcohol is recovered by distillation, and the watery residue treated with ammonium oxalate, which precipitates the lime, iron, etc., still in the solution. The liquid filtered off from the precipitates, and containing all the alkalies in the form of chlorides, is further concentrated and the concentrate treated with ammonium carbonate. This

throws down the lithium in the form of the carbonate salt (Li_2CO_3) which is washed with alcohol of 60 per cent. and thus freed of impurities. By this process lepidolith yields about 8 per cent. of lithium carbonate, equivalent to 1.51 per cent. of metallic lithium.

For a score of years after its discovery by Arfvedson, as mentioned in the beginning, lithium received but little attention. Berzelius gave it a bare mention in 1824, and it is merely alluded to by others, who found it in the waters of various springs in Bohemia and elsewhere. In 1841, Lipowitz published a paper in the *Annales de Chimie et de Pharmacie*, in which he reviewed the combinations of lithium with various acids, and dwelt particularly upon its marked affinity for uric acid, with which it forms an acid salt, "the most soluble of all the urates, being soluble in 60 parts of water at 122 degrees F., and not separating therefrom on cooling."[6] Dr. Alexander Ure, in 1843, refers to it as a remarkable solvent of sodium urate, but his use of the substance in practical therapeutics was rendered impossible by its scarcity and high price, and it was not until 1858 that it again attracted any attention in therapeutics. About that year Sir A. B. Garrod writes that he "commenced the administration of lithium salts as an internal remedy, both in cases of uric acid diathesis connected with gravel, and likewise in chronic gout, and was much gratified at the results." But he subsequently adds, "the great bar to the free use of lithium salts in medicine has been their expense."[7]

The price of the remedy, however, does not seem to have deterred Garrod from its continued use, since we find him, in the treatise referred to, devoting a very considerable space to a review of the important therapeutic results personally obtained by him from the use of the salts of lithium, and their undeniable superiority over any other alkalin salts whatever, for both internal and external exhibition. An indorsement so unqualified, coming from such high authority, as a matter of course at once attracted the attention of the medical world to the remedy, and gave an immense impetus to experimental investigation with lithium salts in therapeutics. It is seldom, however, that the individuality of an investigator or observer is sufficiently pronounced to carry universal conviction of the truth of his observations or conclusions, especially in researches of this description; and here we find the medical profession at once divided as to the correctness and value of Garrod's conclusions. A controversy was inaugurated, on both sides of which talent and learning were enlisted, and which has brought about a very decided advance in knowledge of the behavior of the alkalies in general, and especially towards uric acid. We need not dwell on the merits of this discussion, but pass to more modern matters.

The behavior of lithium carbonate toward uric acid, and its influence upon the solubility of the urates in the human economy, have in many instances without doubt, been greatly exaggerated, a fact due mainly to the lively imagination of owners of certain mineral springs, who herald their waters not merely in the daily press but in medical and trade journals through advertisements, in which to quote Dr. A. C. Peale:[8] "The fact that the water contains lithia, if only a trace, is made prominent by the incorporation of 'lithia' into the name or designation of the spring."

Louis Siebold rose against these unwarrantable exaggerations and usurpations in a paper on "Medical and Chemical Misconceptions about Lithia," read before the British Pharmaceutical Conference in 1889, the substance of which is that the lithium compounds "owe their place in the materia medica originally to the observation that, as compared with potash or soda, a smaller amount of lithia suffices to form a soluble salt with uric acid, and that this salt is more readily soluble in water than the corresponding potassium and sodium salts. From a chemical point of view, its greater antacid or neutralizing power presents itself as owing to its low atomic weight." "It follows from the atomic weight of lithium and potassium that 74 parts of lithium carbonate possess the same acid saturating power and are likely to dissolve as much uric acid as 138 parts of potassium carbonate." This saturating powers however, is confined only to the carbonate and indirectly to the citrate, (which becomes converted into the carbonate within the organism); but "it is extended to a number of mineral waters containing lithia, generally mere traces of it, notwithstanding the fact that what there is of lithium in these waters generally occurs there as chloride or sulphate, salts which neither directly or indirectly act as alkalies and possess no solvent action on uric acid."

While such rational arguments are convincing to all reasoning men who, in fact, never entertained a different opinion to that expressed by Siebold, they are eminently dissatisfactory to those who prate of "God-given," "Heaven-endowed" fountains of health, "medicines wrought in the laboratory of Nature," and who are ready to apotheosize lithium and place it in the firmament alongside of Hygeia, or with the benign goddess of Greek mythology who hovered over mineral springs and endowed them with healing virtues. This idea seems still to be a favorite one with some mineral-spring proprietors, whose cards and advertisements display conspicuously the winged female with scanty drapery and small regard for the proprieties.

The occurrence of lithium in natural waters is necessarily limited, not merely on account of the limited amount in which it is found, but more especially on account of its existence *always in combination with the most insoluble constituents of the primordial rocks*. One need not, therefore, be surprised at finding that the average content of the lithium salts in mineral springs is not more than 4 parts in 100,000 of water, or say 1 grain in 3¼ pints.

"Despite the long list of 'lithia springs,' whose advertisements we find in the medical and secular journals of the day, the actual number of those containing upward of four grains of lithium bicarbonate (equal to about two and five-tenths grains of the dry carbonate) to the gallon, is but fifteen,"[9] and this amount has been reduced by more recent analyses in which more accurate methods for the estimation of lithium were followed.

The physiologic investigations of the last decade into the nature of uric acid, and the importance of the rôle played by it in the human economy have maintained and even intensified the interest in the therapeutic value of the behavior of the salts of lithium towards this acid, first introduced by Garrod and sustained by his successors. The opposition to the views of Garrod, which sprung up years ago, culminated two years since in an elaborate work by Dr. Alexander Haig ("On Uric Acid," 1892), who

undertook to prove experimentally on his own person that lithium administered for the elimination of uric acid from the system, not only failed to accomplish the purpose, but "diminished the excretion of uric acid." In defense of this position he quotes from Rose to the effect that lithium forms "insoluble compounds with phosphate of soda and triple phosphate of ammonia and soda, salts generally present in animal fluids." The work of Rose has not been accessible to me and I, therefore, am not in a position to assert whether or not Haig properly quoted or understood him, but I find that Dr. Halberstadt asserts that "sodium phosphate causes, in *not too attenuated* solutions of lithium salts, a crystalline precipitate of normal lithium phosphate;"[10] and Sir Dyce Duckworth[11] states that "the normal and bi-urate of lithium easily dissolve in alkalin fluids, also in phosphate of sodium."[11]

This is in accordance with my own experience, but I found also by actual experiment that no precipitation took place, even after several days, when such solutions are further diluted to 1 part in 250 or more parts of water before being mixed. When we take into consideration the minute amounts of sodium phosphate and lithium salts that can possibly meet in the blood-serum at any given moment, and that each meeting must occur in rapid motion, we must conclude that other causes have been instrumental in producing the results of Dr. Haig's experiments.

Another protest against the conclusions of Haig was recently published by a well-known French pharmacist, M. P. Ardoue, in *L'Union Pharmaceutique* (quoted in the *National Druggist*, Vol. xxi, p. 162), who records a case of gouty rheumatism, in which he had examined the urine of the patient before, during and after treatment, and determined a very decidedly favorable action of lithium salt in the excretion of uric acid.

The four experiments of Gorsky ought to be mentioned also, which he carried out in the year 1889 at the laboratory of Loersch at St. Petersburg on healthy men, each lasting twenty-four days, and by which he arrived at the conclusion that "carbonate of lithia administered in gradually ascending doses, from 2 to 8 grains a day with an effervescent water, increased the daily amount of urine and with it the daily amount of the excretion of uric acid;" and, he continues, "it is very probable that lithia favors the transformation of uric acid into urea, and hence by freeing the system from the acid, promotes a more energetic cellular action." It would therefore seem that the usefulness of lithium salts as a therapeutic agent had not yet outlived itself; but, on the contrary, that the salts will long continue to be employed as a great alleviator of human suffering.

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1 Just now while most physicians are better acquainted with the therapeutic properties of lithium than with its history as an element, I deem it proper to resurrect the true etymology of the word, as I find that many members of the profession connect its derivation with its solvent properties towards the stone-like concretions formed in the kidneys and bladder by uric (formerly called lithic) acid. This remarkable property, which earned for it the significant appellation of "lithontriptic," was not discovered until twenty-five years after the separation and naming of the element—a discovery, which while a mere coincidence would have been hailed with delight, had it occurred in other days, by the adherents of the "doctrine of signatures," who believed that every substance in nature, which possesses any medicinal property, indicates the same by some well-marked characteristic or appellation. Thus eye-bright (*euphrasia officinalis*) was deemed sovereign in diseases of the eye; saxifrage as a lithontriptic, etc.—(The author.)

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8 Dr. A. C. Peale, Classification of Mineral Waters, May, 1887.

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TREATMENT OF POTT'S DISEASE.

A Clinical Lecture delivered before the New York Post-Graduate School and Hospital, Sept. 26, 1894.

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There is some difference of opinion in the profession in regard to Pott's disease and lateral curvature of the spine, and their treatment. Only a few years ago certain gentlemen in the profession claimed that they cured lateral curvature of the spine after serious bone changes had taken place. It is needless for me to say that their statement is incorrect. I am willing to concede that it is much easier to treat patients with Pott's disease of the spine or lateral curvature, in private practice than in clinics; but lateral curvature when treated even in private, when bone changes have taken place, can not be perfectly cured. That it may be arrested and the physiologic curves remedied, and the patient rendered comfortable, is true of almost every case. Then our aim in the treatment of latural curvature is directed more particularly to the prevention of the increase of deformity than to the cure of pathologic changes which have taken place in the vertebra from pressure.

In regard to the causes of lateral curvature, I believe that curves occurring high up in the vertebral column, either in the dorsal or cervical region, are nearly always congenital or rachitic. A rapidly growing girl, who sits in awkward positions, or stands in such a manner as to constantly curve the spine, will no doubt develop lateral curvature. The curves which occur in the lumbar region are more frequently due to this cause, a shortened limb or a twisted pelvis, than any other. These, to my mind, are the most frequent causes of lateral curvature. Paralysis of the muscles undoubtedly produce many cases. The serious curves with which we have to deal are located more frequently in the dorsal region, for the reason that, as the spine bends, there is a change in the ribs and in the muscles between the ribs; and before a curve of this kind can be remedied it is necessary that the deformity of the ribs shall be overcome. This is practically impossible according to our present knowledge.

The deformity in lateral curvature is produced by absorption of the vertebra from pressure. As the spine bends, rotation always takes place in the direction of curves. Then we say that nearly all cases of lateral curvature are to be considered as cases of lateral rotary spinal curvature. When more than one curve occurs it is then called double lateral rotary spinal curvature. One of the most common symptoms of lateral curvature is the projecting shoulder-blade and the drooping shoulder. These are cases that find their way to various bandagers, who adjust worthless appliances, and the apprehensions of the mother are put at ease by such charlatans until after a year or two, when the orthopedist is consulted, he finds an incurable curve in the vertebra produced by absorption. Then the projecting shoulder-blade, the drooping shoulder, the prominence of the ribs on one side of the vertebra—as the patient is bent forward—the absence of pain and

spasm of the muscles, the general good health of the patient, are symptomatic of the deformity under consideration. And the case which I present here illustrates well the points which I have tried to emphasize. How different from this other case which I present to you; a child 12 years of age with Pott's disease in the third dorsal vertebræ. This child has pain in the thorax, anteriorly; difficult breathing; walks with that peculiar gait of Pott's. When it stoops to pick up an object it crouches down. The slightest pressure on the head produces pain; bending forward of the body elicits a cry; when the body is moved, as you see, it moves in mass, indicating that all of the muscles of the body are affected by spasm, producing the rigid spine, and then when the patient is bent backward and the head lifted, almost total relief of the symptoms.

You will observe that there is also a slight bony prominence in the third dorsal, projecting posteriorly. From these symptoms you would have no trouble in making a diagnosis of Pott's disease of the spine. It is your duty to make your diagnosis before the deformity appears, and to do so in a child only 1½ years old is sometimes quite difficult. But if you will observe these points you can always make a diagnosis even though the child can not speak to you: There will be the night cries; screaming of the child when the mother lifts it; bending forward of the body elicits pain anteriorly from the point of disease; the patient placed upon its back when lifted to an upright position with the hand under the head rises with a rigid spine; patient in the sitting position, you standing behind it, will present a rigid spine when bent from side to side; if the disease is located in the lumbar region the good old doctor has probably treated the case for worms; if in the dorsal region, for asthma. But when the symptoms which I have enumerated are present, although there is no deformity as yet of the spine, you would be quite certain of making a diagnosis of Pott's disease. So you see that there is a vast difference between the symptoms of lateral curvature and Pott's disease.

As regards the principle of treatment of each: In lateral curvature of the spine, effort is made to develop the muscles of the back by massage and proper gymnastic exercises. The patient's physical condition is rendered strong by appropriate food and exercise; and in cases where deviation of the spine amounts to more than one-half of the diameter of the vertebra, a support to prevent absorption of the vertebra at point of curvature is most emphatically demanded. In Pott's disease of the spine, however, the principle of treatment is entirely different—it consists in absolute immobilization and extension to the point of comfort to relieve the pressure between the diseased vertebræ.

The deformity in lateral curvature is produced by pressure on one side of the vertebra, resulting in absorption. In lateral curvature of the spine I believe the plaster-of-Paris corset, or the wood corset with lacings so that they can be removed at night, are the best forms of brace yet devised. The aluminium corset is excellent but expensive. In the muscular forms of curvature, corsets with steel stiffening, particularly for young girls, I have found very satisfactory. These appliances are made while the patient is suspended to the greatest amount possible. This relieves the pressure upon the bodies of the vertebræ and stops absorption. The corsets are removed at night—the patient while in a recumbent position being in the position of extension. When the patient is in an upright position, with the corset adjusted, pressure is relieved and absorption must necessarily stop.

Now in Pott's disease of the spine the patient is fixed in an apparatus while in the position of *suspension, to the point of comfort.* The corset which is adjusted, is not allowed to be removed; it is put on and permanently worn. *It has this advantage over all steel braces which, to my mind, are almost absolutely worthless, in that the nurse or mother can not remove it.* It is worn with comfort, and holding the spine as it does in an extended position, and fixing it better than it can be fixed in any other way, ankylosis will take place.

No brace or corset of any description can be applied effectively to a child under 3 years of age, owing to the narrow hips, that will support the spine. For that reason I have devised a plaster-of-Paris portable bed, in which the child is placed. This enables the nurse to carry it into the open air, and is better than confining it to a bed in a close room. Bonet's wire cuirass, used by Dr. Sayre, is a most efficient apparatus but is more expensive than the plaster-of-Paris portable bed and is no better. If the disease is located above the third dorsal vertebræ, no corset or brace without the aid of the jury-mast can be adjusted so as to be a support, owing to the fact that the weight of the head and shoulders operate upon the point of disease or curve. In such cases the jury-mast should always be so adjusted, as to transmit the weight of the head through the corset to the hips. *All of the arguments which have ever been advanced against the use of the corset amount to nothing in the presence of an established fact. You will observe that this child with lateral curvature, after the corset is adjusted is two and a half inches taller than without the corset. If anybody can explain to me what makes this child taller, outside of the support he is given by the corset, I will concede that the corset does not support. Until this question is answered I will continue to believe that the arguments advanced against the support of the corset are all fallacious.*

To make proper corsets from plaster-of-Paris, suitable material must be used. H. B. Claflin & Co. make for me a special crinoline known as No. 100 hospital crinoline. It has the proper amount of sizing and material and a total absence of indigo. The plaster-of Paris I have had the White Dental Manufacturing Company, of New York, put up in fifty pound tin packages, fresh from the oven. This cloth and plaster-of-Paris, when properly united, makes a perfect plaster bandage. Tear the crinoline into strips six inches wide and six yards in length; draw the cloth over a pile of plaster-of-Paris on a table, and with the hand rub off all excepting enough to simply fill the mesh of the cloth; roll the bandage loosely, that it may take water quickly, and it is simply perfection. A tight fitting shirt must now be adjusted to the patient. The shirt which we now use is a long stocking, and costs about 25 cents a yard. Mr. Ford, of Thirty-second Street and Fifth Avenue, New York, furnishes it to us. It fits perfectly tight and a piece can be cut off at any length. It comes in three sizes. Allow the patient with lateral curvature of the spine to suspend himself to the greatest possible extent. In Pott's disease, use the arm-pieces, and suspend the patient to the point of comfort. The dinner-pad has been placed under the

shirt; three or four bandages are now placed in water; one of these is wound snugly around the body just above the crest of the ileum, making two or three turns, then the hips are enveloped down to the great trochanter,—use one or two bandages at this point. Begin at the bottom of the corset each time, and roll on the bandages up to the arm-pits, rubbing each layer until there is no longer air in the meshes of the cloth. Six bandages will do for a child under 7 years. From eight to twelve for adults. When the plaster is setting, stand behind the patient and gently crowd the corset in over the crest of the ileum and firmly against the ribs. After the corset has firmly set, remove the dinner-pad and spring the corset antero-posterior, to throw it off the antero-posterior spinous process, otherwise excoriations will surely follow. Cut the corset off at the bottom and top; leave it on permanently in case of Pott's disease. In lateral curvature cut off the corset, trim the edges with lacing, and you have an elastic, light and durable spinal brace.

If the patient desires a wood corset, fill the plaster-of-Paris corset with plaster, which makes a cast of the body, upon which the wood corset is made.

The corset in Pott's disease should be worn from six months to a year without removal. In lateral curvature it should be removed each night. Proper exercise, forcible redressment, gymnastics and so on, as already mentioned, should be used.

If an aluminium corset is desired the plaster-of-Paris cast is sent to the foundry, the anvil is made, and upon this the aluminium is worked. This undoubtedly is the most beautiful corset made.

I wish to present to you a case of club-foot operated upon by Phelps' method. Before the operation the child walked on the outside of his feet. You see now the feet are as perfect as it is possible to make them. The child walks almost perfectly, with nearly perfect motion of every articulation of the foot. Some have criticised the operation by saying that paralysis and a sensitive scar is the result. I think I can now speak authoritatively, because I have operated over three hundred times and I have not observed either. I have seen some feet which, from bad shoeing, after years have resulted in a moderately flat foot, but not enough to inconvenience the patient. This case had been treated in the Fifty-ninth Street Dispensary for four years with braces, and the result was entirely unsatisfactory. Three months ago we performed this operation making this simple cut, as you see, through which we divided everything contracted, and forced the bones into their normal position, and the foot into the super-corrected position. The child wears the plaster-of-Paris shoe, which extends a little over the ankle, over which an ordinary shoe is worn. This will be continued for one year when, as a rule, these cases have passed the period of relapse. I consider it bad practice to treat any case of club-foot for years with any form of brace when the patient will allow us to operate. The results are not so good as when following this operation.

One word more, and then I have done. No case of club-foot should be operated upon by any form of osteotomy until subcutaneous tenotomy and open incision with great force has been employed. After this, the various forms of osteotomy find their place. In my series of nearly three hundred cases, osteotomy has been necessary in nearly 12 per cent. of all the cases, and in nearly all of these three hundred cases, operations of various kinds or prolonged instrumental work had been employed. Several of them had had the astragalus removed. Others had had cuneiform resections performed. But with this small cut that you see and dividing the contracted soft parts, all of these feet were placed in the super-corrected position, with the exception of 12 per cent. It is true, great force was required in many of them.

NOTE.—In this series of 300 operations if we had resorted to osteotomy there would have been twelve funerals, as the mortality from osteotomies is about 4 per cent.

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CRANIOTOMY IN MICROCEPHALUS.

Lecture delivered to the Post-Graduate Medical School, Chicago, 1893.

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The era of aseptic surgery has not only brought about important changes of old operative methods and simplified our surgical apparatus, but it has also given a stimulus to bold undertakings in surgery.

A large group of operations, which we could designate with the collective name of plastic operations, in the broad sense of the word, and which have the ideal purpose to correct the errors and faulty works of nature, have made an immense progress; but not only the common malformations as cleft palate, congenital dislocations, etc., have been attacked surgically, but the most delicate organ of the human body, the brain, has been a field of speculation by surgeons. Malformations and retarded development, mental disturbances of many kinds were considered and subjected to surgical experiments, and many of these experiments proved to be a success. But as it always happens in such instances, the use of these operations was extended over cases that were quite different from those for which they originally were indicated, and so it came that the operation seems to be discredited in the opinion of many conservative and even progressive men of our science.

The French surgeon, Lannelongue, first tried to operate on an idiotic microcephalic child, and he called the operation craniectomy. It was an operation designed to relieve the brain of the child of the restraining pressure from a prematurely ossified skull, by removing a strip of the skull capsule and allowing the brain to develop. The plan was based on hypothetic grounds entirely and on wrong suppositions partly, but it was successful, and though nobody could exactly explain the success, this latter was an undeniable fact and sanctioned the undertaking. The experiment was carried out time and time again, by truthful and scientific men, but with various results, and caused on the one hand an unjustified enthusiasm; on the other a sad disappointment.

Whoever reads the following expressions of authorities—and both men whom I am going to quote, are authorities recognized in the world of science—does not know whom to believe. Verneuil, the great French surgeon, who has witnessed the results of Lannelongue's cases, adds to the paper of this author, which he presented before the Academy of Medicine of Paris, the following remarks: "I call the attention of the members of the Academy to an entirely new operation that gives the greatest honor to the distinguished surgeon who has inaugurated it and carried

it out with success. We have not to deal here with an empiric task undertaken by chance (*tentative faite au hazard*), neither with a human vivisection which is done too often nowadays. The resection of a piece of the cranial skull for microcephalus is a perfectly reasonable idea inspired by the anatomy and pathologic physiology, and it has, as it was *a priori* to be expected, given a remarkable result. Undoubtedly the undertaking seems to be bold and will remain so, but it is less rash if we consider the benignity of operations in children, the simplicity of our operative apparatus, and above all the extreme broadness which the practice of antisepsis allows to our surgical undertakings. I have seen the little girl this morning myself, and I have examined another child who has recently undergone the same operation. Both are doing marvelously well. From to-day on, we can count on the operative success of the craniectomy as M. Lannelongue has performed it. As to the therapeutic success the future will decide, and besides the last word is not yet spoken about the technique and the improvements that can be brought about."

This critique, of Verneuil's, an authority of high rank is very flattering.

One year afterwards we read Bourneville, an authority in nervous diseases and hear to our surprise:

"Generally speaking it seems to me that the surgeons have little knowledge about idiocy in its various forms. We find as reasons for undertaking such an operation as craniectomy the following: The condition of this child is so deplorable, that there is hardly a risk to undertake any operation at all, which gives a chance for relief (Wyeth) and another: As far as I think, it is a very lucky invention, for if we can not help such children it is better for them to die than to live such a miserable existence. (Keen). These are surgical views *fin de siécle*. We have to condemn them. The medicine we were taught, has the mission to cure, to better or relieve the sick that are trusted to us and not to assume the function of an executioner. If there is a law from the social standpoint, that orders to kill all idiots it is not our business as physicians; leave this to the public executioner. But there is no such law. The physicians have always tried to ameliorate the physical and moral conditions of the idiots and imbeciles. The surgeons ought to visit the institutions for these unfortunates in the United States and in England, and see how these poor human beings are educated. They ought to read what is published about the pathology of these disturbances and they will be convinced that their action is not justified in a large number of cases."

Reading two such entirely opposite views on one subject, we are apt to be at a loss as to what to do. So it was with me when I first met a case that I thought belonged to this class of malformations. I undertook it to study up on this question to the fullest extent, and the fruit of these studies is the following paper.

In going at the subject I had to study the literature, which is quite extensive, for the pathologic part of it was a well-known matter of controversies and discussions and has accumulated an extensive literature from very competent and diligent observers; and the literature on the therapeutic measures has assumed large proportions since Lannelongue's publication. To this I had a modest experience of my own. I thought to make this a critique of what has been done, gathering the single observations and calculating what may be done in the future. There are several questions to be answered:

1. What is microcephalus?
2. What is craniectomy?
3. What is the possible physiologic connection between one and the other?
4. What was done so far, and how were the results?
5. What are our objective conclusions in regard to the advisability and outlines of indications for the operation?

From what I read in the respective articles, it would seem that microcephalus is a type as strongly and well defined as any pathologic condition, for instance cleft palate, but this is not so. There is a chaos of pathologic views and facts are thrown together with so many hypotheses and symptoms that it is hard to form an opinion about the true pathology of this malformation. Historically the question and investigation developed as follows: The large group of idiotic individuals showed that there were some of that kind whose heads even to the non-scientist appeared as too small, and the small size of the head was accused as the cause of the idiocy. Darwin's theory, which brought about so many changes in our thoughts in regard to the development and relations of different classes of animals has brought the microcephalus question to the foreground. In the development from the highest animal, the monkey, to man, there seemed to be a gap, which to fill, the lowest human being, the Bushman of Middle Africa, seemed to fail. Here some interpreters of natural development found that the microcephalus—the homo animal *Blumenbachii*—was the right individual to fill that gap, and scientific men argued pro and con in hot discussion. Men like Gratiolet, Rudolf Wagner, Sander and others sought to prove the contrary, but Carl Vogt, who wrote the most extensive paper on microcephalus, has scientifically developed the theory of the descendence of microcephalus. He measured the surface of the brain, covering it with stanniol paper and then measuring the same, he weighed the brains, he compared the brains of microcephalus with those of monkeys, the details of which would lead too far—and he seemed to prove that we have atavistic forms in our microcephalic individuals and that they form the link between the monkeys and human beings. These assertions brought the microcephalus into discussion. But Wagner as well as Vogt had not studied on good pathologic material and they did not base their studies as well on pathologic facts as scientists could with all improved methods of examination during our latest time. Giacomini, of Torino, is one of the latest authors who gave a comprehensive study on this subject. He points out that among the microcephali there have been counted many different varieties of cases, some, where there was no brain (Starr's case), which ought to be classed as anencephalus, and others where the brain weighed 950 grams (Krause); such a case comes near the normal. But it is not right to classify the degrees of microcephalus by the size of the skull or brain, because this simply gives relations and nothing else. The central nervous system is the main indicator. Two questions arise to the author: Is microcephalus a type and can it be explained by the theory of descendence?

Giacomini had rich material in the museum of

the Anatomical Institute of Torino. Of his two predecessors who wrote about this question, one had only one brain at his disposal (Rudolf Wagner—microcephalus of Iena), and the other none at all, but only plaster-of-Paris casts of skulls and brains (Carl Vogt). Giacomini observed eighteen cases and examined the bodies carefully. They ranged from 7 to 66 years in age; the brain weighed from 171 to 968 grams. There existed no type, no typical microcephalic brain, but as many different microcephali as there were different brains. This uncertainty of symptoms causes the absence of a typical microcephalus, and as there are no points of distinction there is no grouping and no classifying. Weight and capacity of the brain have nothing to do with the abnormality and they have to be discarded as points of division. The impossibility to deduct conclusions of the higher intelligence of normal individuals by the size of their heads prevents us also from forming an opinion regarding abnormal individuals, but the relative weight of different parts of the brain is of more importance because of the harmony of the development. To diagnose a case of microcephalus proper, it is essential that pathologic conditions or brain lesions be absent; microcephali with pathologic conditions are designated pseudo-microcephali. For instance, if a brain is smaller because of porencephaly, or hydrocephalus chronicus internus, or sclerosis, it is a morbid condition and not a congenital disturbance.

As to the etiology of the microcephalus proper, there have been several theories:

1. The atavistic or descendence theory, that is the theory that the history of the development of the single species is repeated in the history of the embryonal life of the newborn, and that this newborn can with one leap take the shape and form of its representative. (Charles Vogt.)

2. The theory of arrested development, which means that the development of the individual regarding brain and skull, suddenly stops during the embryonal life on account of some impediment, and from that point on remains at that stage of development all the rest of the life. (Wagner, Gratiolet.)

3. The theory of premature ossification of sutures and fontanelles and the consequent pressure of the brain. This theory has been supported by none less than Virchow and has overshadowed so much any other that it is hard to part with it. In fact, it seemed to be the most probable and least difficult to understand, and this is the theory upon which the plan of our surgeons was built though indirectly. Nevertheless, this hypothesis is to be rejected and even Virchow and Lannelongue gave it up as untrue. The reasons for this are manifold. First we do not find this premature closure of sutures in all cases of microcephalus. Carl Vogt, who has studied forty-two cases of microcephalus and whose work on this subject has received the Godard prize from the Academy of Paris, found the sutures perfectly open in three cases of young microcephali, and not quite ossified in seven adults. Dr. John von Mierjewski, of St. Petersburg, examined a splendid case of microcephalus of a fullgrown man (Mottey) and found the sutures grown together only partially. Besides this, other authors have made the same observation, while in many other cases the ossification was perfect. But Giacomini points out another reason for the improbability of this hypothesis and that is, that there exists some smallness of the spinal cord and medulla oblongata with every true case of microcephalus, but at the same time a normal canal for these centers. Why is this, if the ossification of the sutures is primary and the microcephalus secondary?

4. Hydrocephalus chronicus internus has been accused by some authors of causing the abnormality, but inasmuch as Giacomini in none of his cases has found such a pathologic condition this theory can *similariter* be discarded.

5. Smallness of the carotid foramine which prevent the blood from giving enough nutrition to the respective tissues, has been another theory favored somewhat, but it shares the fate of the last one because of the coëxistence of the micromyelia, while the circulation of the spine is not impeded and the spine nevertheless affected.

6. It remains, therefore, only the agenesia cerebralis; that is, the opinion which is upheld mostly by Giacomini and which I think is correct, that the microcephalus is of purely central origin; that there exists an arrest of development of the brain and spinal cord, where all the constituent parts are less developed. The cylindraxes of the nerves are smaller in number and size, the convolutions are smaller (microgyria), *en tout* the brain is only a model of the real one—a brain *en échelle réduite*. This is the true microcephalus; all other forms are combined.

For instance, in my second case, in which I was able to do a careful anatomic examination, I found that I had to deal with a microcephalus with enormously enlarged ventricles, so that when the fluid had escaped the shell of the brain collapsed and folded in on some points, like the occipital region, as it can be readily seen on the specimen. This was a case of microcephalus combined with hydrocephalus chronicus internus.

The conclusions about microcephalus briefly we would say are:

a. Microcephalus is essentially an agenesia of the central nervous system.

b. Deformity of the skull is the consequence of the same.

c. There is always micromyelia co-existing.

d. The agenesia can start at any period of the embryonal life.

e. Pathologic changes can occur at the same time. (Giacomini).

The symptoms of microcephaly are as different as the representatives of the abnormality. They attracted the attention of the anthropologists first. Blumenbach called them human animals, because they were similar in their actions to monkeys with the expression of human beings in their faces. In psychologic respects they were not similar one to the other; one is active and agile, very skilful in climbing up a tree, with physical strength, an active and expressive mimic in the face. Others are awkward, walk lazily and interruptedly, with very feeble mind, but they understand everything belonging to the necessaries of their life, have some combination and can talk some words. Others can not talk at all. Physically they have a splendid healthy appearance, their sexual qualities being not developed at all or being developed to more than usual vivacity (Weise and Schüttendreyer, two cases of Charles Vogt).

But if we look at the table that I have prepared, we do not find these symptoms mentioned in the respective cases and we must ask ourselves, why?

The cases which have been operated show almost idiocy of the lowest kind, and only a few cases are imbecile individuals of the character mentioned above. They have the symptoms; they can not walk, nor talk, can not even sit, must be fed, do not pay any attention to what is going on around them. They belong to great extent to the early youth and infancy, where many of the first mentioned symptoms can not be developed yet at all.

But there is one important point which seems to me to have great weight as to the practicability of the operation, and that is whether the symptoms existed since birth or began to develop later on. Some of the most striking results as in Case 11, of the table, are obtained in the cases, where symptoms appeared after a period of apparently normal development elapsed. We will refer to this point later on more emphatically.

The prognosis of the microcephalic idiot up to late years was very *triste*, and has not gained very much yet by the operation. Nothing could be done very often for them, and all that was done was to educate them. Lannelongue introduced the surgical treatment, the craniectomy.

What is craniectomy? Etymologically the operation consists in removal of the cranium, as thyroidectomy consists in the removal of the thyroid gland. Keen finds this illogical and suggests the term craniotomy, but this is insufficient, as well because it does not indicate the removal of the strip, but the incision only. We will use therefore the term, craniectomy, as do most of the writers.

Lannelongue first removed a longitudinal or antero-posterior strip on one side of the skull. Since that time the operation has been modified many times. The strip has not been made exactly longitudinal but curved. There has been taken out a parallel strip on the other side of the skull (double craniectomy). The two strips have been combined by a third one, crossing the skull, so that we distinguish a V-, U-, and H-shaped craniectomy. The preparations for this operation are as usual for brain operations. The head is shaved thoroughly the evening previous, washed and covered with an antiseptic dressing. The anesthetics are administered very carefully as there are cases of shock on record. The skull is exposed by an incision of skin and periosteum according to the plan of the operation. Some surgeons remove the periosteum over the strip of bone that is to be taken away, in order to prevent the formation of bone at the place of the removed strip, but in most of the cases the formation of bone failed to appear even when the periosteum was left. The first incision into the skull generally is made with the trephine and then the excision is continued both sides of the hole with a special forceps. I have used a modification of Luer's double cutting forceps. Care has to be taken not to lacerate the dura mater which is likely to happen in crossing the sutures. The dura mater has to be freed first from the bone, which can expediently be done by one of the blades of the rougeur. As much care has to be taken not to lacerate the venous sinuses.

In most of the cases this has been sufficient to complete the craniectomy, and the purpose has been regarded as fulfilled; in others, the dura has been opened and pathologic products as cysts, hematomata or tumors have been removed. But this latter operation does not belong to craniectomy. There is no drainage used, except the dura had been opened and the serum had to be drained off. The dressings are as usual. The hemorrhage is usually slight and can be checked by pressure and ligature. Esmarch's bandage is very effective to check excessive hemorrhage.

What are the consequences of the operation immediately after?

The operative result is, if the operation has been done aseptically, a good one; primary union usually. Does the skull enlarge any? Some observers have noticed such an enlargement and given it in figures (Ransohoff and others, see table). Unless the incision is very long if longitudinal, or if the incision is curved, so that it forms a flap on one side (V-shaped or U-shaped craniectomy) there is no possibility of enlargement of the skull. If we compare the skull to a firm globe, of which a strip has been taken out, we can see readily that the cavity of the globe can not enlarge much, if the incision is not very long and the coherent part is similar in its action to an elastic charnière-joint. So it is with the skull, and the conclusion is therefore, that the incision must be very long in order to be effective. Such a strip would go from above the eyes down to the occiput. The linear craniectomy is therefore without value even if very long, and only the curved incisions whether single or better, double, are to be considered as able to enlarge the cavity of the skull. The figures that have been recorded as proofs of the enlargement can not be taken in earnest, for the measures of an eighth of an inch in such cases can be brought about by other causes than the enlargement of the cranial cavity. The bone does not re-appear on the place where it was taken out. Sometimes the dura bulges out and shows clearly that there is a hyperpressure on the cranial contents.

So far extends the operative result, and it is in most cases very good. What is the curative result? This question I shall answer after having recorded the cases.

Now, is there any reasonable causal connection between such an operation as the craniectomy and the abnormality for which it has been used—the microcephalus? and is it justified to extend the operation over other non-microcephalic cases of idiocy, as it has been done in some instances?

As I stated in the first few lines, Lannelongue has used the operation to enlarge the head, though he knew that the premature ossification of the sutures had nothing to do with the arrested development of the brain. He simply thought that the opening in the skull should give an impulse to the brain, and so it seemed really to happen. We may say the connection is as follows: Microcephalus is of central nervous origin; premature ossification of the sutures is only a consequence of the arrested development, but afterwards this prematurely ossified skull prevents the brain from developing and so we arrive at a *circulus vitiosus*, where the cause becomes the consequence and the consequence the cause. If we take out one link of that vicious circle, we have broken that circle and the brain can develop again. We see that it is not absurd to make a craniectomy for the development of the brain, but must not think it verbally true that we free the imprisoned brain by that operation.

But how is it to be explained that the operation was a success in cases of non microcephalic idiocy? If we review the single examples in which it was

performed, we find that the inaugurator himself has enlarged very much the field of indications.

In his paper about this matter read before the Congress of French Surgeons, 1891, Lannelongue says that he thinks that the premature ossification is only a morbid state of the bones due to hereditary syphilis, alcoholism and rachitis, just as well as the rest of the pathologic changes of the brain, partial sclerosis, hydrocephalus, etc. Even in cases where no ossification of sutures took place, there are pathologic changes to be found as too narrow fontanelles or sutures, partial obliteration, the bones thickened. These symptoms Lannelongue found in three microcephalic skulls, which he had chanced to examine, and these symptoms led him to make such cases, if they even were not quite typical, indications for craniectomy. They belonged to the series of pathologic subjects of arrested development and the operation seemed to be successful. He therefore puts down the following indications:

1. Primitive lesions of the brain, which are not recognized by us very early, because the functions of the brain surface are not developed in early infancy, but in later periods.

2. Secondary (*tardifs*) lesions, which occur at the age between 4 to 6 years, and are consequences of diseases, entero-catarrh, whooping cough, erysipelas, etc.

3. Traumatic influences (during birth). It is not certain, whether a part of the idiocy is not due to such a compression during delivery.

4. Congenital affections as described by Lannelongue and Ménard (*Maladies des Bourgeons de l'Embryon*, 1891), the intra-uterine compression on account of lack of waters. This compression is to be distinguished from that caused by delivery in this way, that the diameter is not shorter in one and longer in another direction by compensation, as after childbirth, but that it is smaller in all directions.

5. Meningeal hemorrhages, occurring during birth and consecutive pathymeningitis, atrophies and porencephalies—in other cases there is some serous accumulation and the opening of the skull will remove it quicker.

6. Hyperostoses of the skull caused by syphilis; then the thickening of the skull consecutive to hydrocephaly.

7. Pathologic changes of the brain itself; that is, atrophies caused by mal-development on account of bad circulation; in this case the opening of the skull will bring a new relaxation, an increased conflux of blood and better development.

8. Furthermore, in cases of limited or general sclerosis, well known in the adult, which Bourneville has studied and described under the name of sclérose cérébrale tubéreuse hypertrophique.

The fact is undeniable, it was useful to remove a strip of the cranium; but what the causal connection between operation and result may be can not be stated with exactness.

I should think that the following process takes place: Physiologically the fontanelles and sutures gradually ossify and are perfectly solid at an advanced age. If the brain stops developing further at an early age the sutures ossify as in old age; but if the brain is freed by an operation, a new conflux of blood and a new impulse of development occur, and if this new growth keeps on and is aided by the pedagogical method then the child improves and keeps on improving. But in some cases the operation does not help or it helps only for a time, and then the child falls back to the old condition of idiocy; in these cases the development and improvement seems to be comparable to the nearly burnt out coal, that flashes up once more if blown into, though the material is burned up, and then dies out altogether.

(To be continued.)

A CASE OF SINGULTUS TREATED SUCCESSFULLY WITH NITRO-GLYCERIN.

BY E. GRISWOLD, M.D.
SHARON, PA.

This troublesome spasmodic condition, whether we term it a disease, or only a symptom, may well be classed as one of the opprobria medicorum; presenting as it does in its clinical history the appearance of a spasmodic disease, and in its therapeutics almost negative results as regards the action of antispasmodics and nerve sedatives, the practitioner may well inquire after a new explanation of its pathology and a new departure in its treatment. Most practitioners of large experience have doubtless met with cases in which this singularly annoying and debilitating condition has continued for many days, even running into weeks, in spite of their best therapeutic efforts, with scarcely any intermissions, unless asleep, and which sleep came but seldom and was transient. Any *new* remedy or *any* old remedy whose successful application to the treatment of this condition is new, deserves the attention of the profession.

There are some things in pathology and in practical medicine that science, so far as we have been able to apply it to our professional work, has not made clear. We are obliged to work experimentally in cloudy fields. When therefore experiment meets with success in an individual case we should follow its line until we discover whether or not the success is a coincidence or a result. Inasmuch, however, as opportunities are rare for carrying on such experiments, I desire to report my result (or coincidence) and to ask the profession at large to try the remedy and do likewise.

On August 2, ultimo, a man aged 50, who formerly had been a habitual drinker for many years, asked advice. He was haggard, despondent and discouraged. His tongue was coated, voice feeble and pulse frequent and weak. His mind, however, was tolerably clear but a little sluggish. He hiccoughed continuously, but managed with considerable effort to give the following history:

For nearly two years he had abstained, by the aid of *the pledge* made to his confessor. Six weeks previously he had begun a drinking debauch which he continued for about three weeks, when his stomach gave way and his bodily functions became generally perverted. Hiccoughs were now added to insomnia and he sought medical relief. He could only get a little sleep and an arrest of the hiccoughs when deeply under the influence of morphin; but the sleep was transient and the hiccoughs returned as soon as he awoke. He felt far more disturbed by the hiccoughs than the insomnia, and had taken prescriptions from several physicians without relief. Believing that he had already taken all the ordinary remedies, and knowing their uncertainty and inefficiency from former experience, an excursion through the mental materia medica for a new one was made, which resulted in the following prescription:

℞. Pill nitro-glycerin 1-150 gr. No. xii. Sig.: One pill at intervals of 3 hours.

The *first* was taken at 9 A.M. In half an hour the hiccoughs ceased. At 12 M. he took the *second* pill and some cabbage soup. Shortly after finishing the soup the hiccoughs re-

turned and continued until about half an hour after taking the *third* pill at 3 P.M., when an intermission took place. This lasted until about 6:40 P.M., or forty minutes after he took the *fourth* pill, followed by more cabbage soup; when the hiccoughs again returned. He was seen a few minutes after this return, and the fifth pill given, there being then about an interval of an hour between the fourth and *fifth pill*. In less than half an hour the hiccoughs left him and have not since returned. He slept fairly well that night, ate a light breakfast next morning and has been making a fair convalescence since that time. It may be noted that the treatment in this case lasted from 9 A.M to 7:30 P.M., a period of ten and one-half hours and that the amount of the medicine used was one-thirtieth of a grain.

A CASE OF NEURITIS SIMULATING PROGRESSIVE MUSCULAR ATROPHY ASSOCIATED WITH NYSTAGMUS AND INCREASED KNEE JERKS.

BY HAROLD N. MOYER, M.D.
CHICAGO, ILL.

The following singular grouping of symptoms came under our observation a short time since, and we deem it worthy of report because we have not seen such described in the literature nor has a similar case ever come under our observation:

A young woman 21 years of age presented herself at the clinic for nervous diseases of Rush Medical College, complaining of a progressive loss of strength and wasting of the hands and arms. She stated that the trouble had come on four years before. There had been no injury or serious sickness. At the time her occupation, that of a servant, required her to have her hands frequently in cold water. At first there was much pain in the hands, which would dart up the forearm; associated with this condition was numbness and tingling. After a time she noticed a progressive loss of strength, and still later that the hands and forearms were diminishing in size. As the disease advanced the pain and numbness ceased, giving place to a marked loss of sensation.

At the present time the hands show a marked loss of muscular structure, the thenar and hypothenar eminences have for the most part disappeared. The spaces between the metacarpal bones are deeply hollowed. The hands are commonly held in a semiflexed position (claw-like) but there is no contraction of the flexor tendons. A little motion is possible with the hands and the patient has a feeble grasp. The strength of flexors is practically *nil*. The forearms are much wasted and the extent of atrophy is exactly the same in both arms. Fibrillary tremors are occasionally to be seen. The arm muscles have escaped, the biceps, triceps and muscles of the shoulder girdle are all intact. The supinator and pronator are not involved. Sensation in the left arm is abolished as high as the middle third. Tactile, common, pressure, and temperature senses are equally involved, though deep pressure seems to be preserved to some extent and the muscular sense is not markedly impaired. The right arm is similarly involved, the anesthesia reaching to the shoulder and involving a portion of the surface of the chest at and below the axilla, corresponding to the distribution of the nerve of Wrisberg and the lesser internal cutaneous. The electrical reactions are altered in different degrees; in some muscles there is complete reaction of degeneration (interossei and muscles of the little finger and thumb). In some of the flexor muscles there is only a partial reaction of degeneration though in all affected muscles a. c. c. precedes c. c. c. Faradic irritability, is mostly decreased or even absent (interossei) but in a few muscles seems slightly increased. Station is good, sensibility is elsewhere intact. The general health is good and the functions of circulation, respiration and digestion are not affected. Nystagmus is present, vision is good and the eye-grounds are normal in both eyes. The patellar tendon reflex is markedly exaggerated in both legs, and prolonged ankle clonus is present in both feet.

A brief glance at the foregoing reveals a very anomalous symptom grouping. That the trouble with the forearms and hands was a peripheral neuritis is, we think, shown by the fact that there was at first pain and paresthesia succeeded by a loss of sensation which still persists, and that the anesthesia is approximately coincident anatomically with the muscular atrophy. On the other hand, the distribution of the paralysis is exactly such as we get in acute polio-myelitis, of the lower arm type of Remak, in which the supinators and pronators escape, while the disease is perfectly symmetrical on the two sides. This is hardly to be looked for in neuritis, though it does sometimes occur; indeed, it is uncommon in polio-myelitis. Again, the gradual onset speaks in favor of a neuritis. While the polio-myelitis may have a gradual progress, it is usually by successive steps; as each group of cells are successively attacked there is a rapid disappearance of corresponding muscles. In this case there seems to have been an even progress in the wasting similar to that noted in the essential forms of progressive muscular atrophy. In this connection we might premise that in some cases it is practically impossible to make a diagnosis between peripheral disease and anterior horn lesion.

The nystagmus and exaggerated reflexes probably have no connection with the peripheral neuritis. Unfortunately, the history of the patient does not throw any light on the possible origin of these symptoms. Had the patient presented herself with these signs alone, we should have felt justified in making a diagnosis of disseminated sclerosis, and such in fact we believe the case to be. Indeed, there is nothing to be said against the view that this may be an instance of *sclerose en plaques*, in which the peripheral nerves share as well as the central nervous system. There is just one thing that may be said against this diagnosis, and that is the symmetrical character of the disease which in disseminated sclerosis is decidedly exceptional.

SOCIETY PROCEEDINGS.

American Public Health Association.

Twenty-second Annual Meeting, held at Montreal, Canada, Sept. 25–28, 1894.

(*Continued from page 618.*)

FOURTH DAY—FRIDAY.

The Association convened at 10:15 o'clock, DR. LACHAPELLE presiding.

The Executive Committee reported by Secretary Watson, substitutes for several of the resolutions that had been presented by various members. Among the resolutions laid upon the table was that offered at Thursday forenoon's session by Dr. Olliphant (see JOURNAL October 20, page 615.) The committee recommended that Dr. Sewell's resolution be referred to the Committee, "On Restriction and Prevention of Tuberculosis." Dr. Homan's resolution was recommended to be referred to the Committee "On the Pollution of Water Supplies." As a substitute for Dr. Campbell's resolution, the Committee recommended a resolution providing for the appointment of a committee of three to consider the question of the abuse of alcoholic liquor from a sanitary point of view. A motion unanimously prevailed that the recommendations and substitutes of the committee be concurred in by the Association.

The report of the Advisory Council was then submitted as follows:

Mr. President:—I have the honor to present in behalf of the Advisory Council the following report. The Council desire to recommend to the Association the following officers for the ensuing year, viz., President, Dr. Wm. Baily, of Kentucky. First Vice-President, Dr. Granville P. Conn, of New Hampshire. Second Vice-President, Dr. Gregorias Mendizabel, Orizaba, Mexico. Secretary, Dr. Irving A. Watson, of New Hampshire. Treasurer, Dr. Henry D. Holton, of Vermont.

For three members of the Executive Committee to be

elected: Dr. Henry I. Bahnson, of North Carolina; Dr. Peter H. Bryce, of Ontario; Dr. E. P. DeVaux, of North Dakota.

Invitations were presented for the Association to hold its next meeting in Denver, Colo., Minneapolis, Minn., and Banff Springs, Manitoba.

The Council desires to recommend that the meeting in 1895 be held in Denver, Colo.; to favor the acceptance of an invitation from Davenport, Iowa, to stop one day in that city, *en route* to Denver, to inspect the water filtration plant and other interesting sanitary features.

The Association was invited to hold its meeting in 1896 in the city of Nashville, Tenn. It was voted to indorse the invitation and to refer it to the next Advisory Council.

The following resolution was adopted:

"*Resolved*, That the question of publishing the Transactions of the Association quarterly be referred to the Executive Committee to arrange for such publication if the scheme be found practicable." C. O. PROBST, Secretary.

The report was upon motion unanimously adopted, and the Secretary was authorized to cast the vote of the Association for the offices named. The list of names upon the new Advisory Council and special committees was also announced, which is practically the same as those for this meeting.

Upon motion of Dr. Montizambert, a committee of two was appointed to escort the President-elect to the platform. Dr. Montizambert and Dr. Gihon were appointed. Dr. Bailey said substantially as follows:

"*Mr. President and Gentlemen:*—Those of you who know me well, will I trust not be afflicted by this mark of appreciation on your part. In view of the honor you have conferred on me I express to you my happiness and gratification. For fifteen years I have been a member of this Association, going about quietly and unostentatiously. I understand that your choice for the Presidency of this Association for next year has been by acclamation, yet withal, I am fully conscious of my faults and weakness, therefore this administration can not hope to rival or equal the one now about to close. I hope to rely on the good will and receive the cordial support of the members, and I feel that this is the proudest hour of my life."

The Executive Committee then recommended that the Committee "On the Centennial of Vaccination" be dropped, which was accordingly done.

The Auditing Committee, by Dr. McCormack, chairman, reported that the books, accounts and vouchers of the Treasurer had been carefully examined and were found correct. Indeed, the business affairs of the Treasurer and everything else were so systematically arranged that the duties of the Committee were very easy to perform. The report was adopted unanimously.

MEDICAL DIRECTOR GIHON, U.S. Navy, offered the following: "*Resolved*, That the thanks of the American Public Health Association be cordially and earnestly given to His Excellency, the Lieutenant-Governor and the Government of the Province of Quebec; to His Honor, M. Villeneuve Mayor, and the Municipal Council of the city of Montreal; to the Federal Government; to the citizens of Montreal; to the authorities of McGill University; to Drs. Craik, Pelletier and Baudry and their associates on the Local Committee of Arrangements; to the members of the press; and lastly, to Montreal's attractive sanitary exhibitions—the ladies—who demonstrated in their own persons the salutary and beatific influence of the Canadian climate, and who contributed so much to the entertainment of the members, and those who accompanied them."

The adoption of the resolution was unanimous.

TRIBUTE TO THE LATE DR. JOHN H. RAUCH.

FRIDAY AFTERNOON.

Dr. H. D. Holton offered the following in memoriam of Dr. John H. Rauch:

"Since our last meeting, Death has taken, in the person of Dr. John H. Rauch, one of the organizers and promoters of this Association, a man whose love of his fellow-man gave him enthusiastic zeal in the work of sanitation.

"We desire to place on record our appreciation of his inestimable work in the field of medical education, and in the organization and continued support of this Association. While we mourn the loss of his personal friendship and the admonitions of his wise counsels, the memory of his devoted and courageous efforts in all the departments of his life-work shall be an inspiration to us to take up the work he has left, with an increased devotion."

DR. MONTIZAMBERT moved that the resolution be adopted in silence, by a rising vote, which was so ordered.

The annexed list of papers and essays were read by title: "La Cuarantena en la Viruela," por el Dr. Nicolas R. de Arellanos, Mexico, Mexico; "On the Etiology of Mexican Typhus," a new contribution, by Dr. Jesus Chico, of Guanajuato, Mexico; "Algunas Consideraciones acerca de la Prostitucion," por Juan J. R. de Arellanos, Mexico, Mexico; "Prevention of the Spread of Yellow Fever," by Walter Wyman, M.D., Supervising Surgeon-General of U. S. Marine-Hospital Service; "The Free and Liberal Ventilation of Sewers," by Mr. C. Baillargé, F.R.S. C., Quebec, P. Q.

A paper, "A Plea for Aseptic Vaccination," was read by DR. M. T. BRENNAN, in which the essayist urged the necessity of performing vaccination under complete antiseptic conditions.

Another paper

UPON INFECTION BY THE BACILLUS PYOCYANEUS AS A CAUSE OF INFANTILE MORTALITY,

With a report of cases, was submitted by DRS. GEORGE ADAMI, and KENNETH CAMERON, of McGill University. The paper was read by Dr. Cameron, who briefly stated main points: "Popularly, pyocyaneus is known as "blue pus." Doctors were often surprised to remark that bandages of wound dressing became blue. For long the color was supposed to be due to ozone or something else. Bacteriology showed it to be due to bacilli. A European savant had had a case where it had resulted fatally. The three McGill doctors within a few months have investigated three fatal cases at the Foundling Institute. The bacillus was discovered and studied for the first time in America. Cultivations of these bacilli were introduced into the systems of rabbits by inoculation, and resulted fatally. Investigations had been conducted to ascertain whether vaccination against the disease could be used. Cultivations of the bacilli had certainly rendered animals immune. The coöperation of other practitioners in prosecuting the inquiry was asked.

The following are the author's conclusions:

1. That the infant tissues are susceptible to the invasion of the bacillus pyocyaneus.

2. That the bacillus is distinctly pathogenic, setting up a disease similar to the experimental pyocyanic disease.

3. That this disease is characterized by a train of very definite symptoms, namely diarrhea, fever, rapid emaciation, rigidity of the legs, and hemorrhagic bulbous eruptions.

4. That the disease appears to be very fatal, and this combination of symptoms occurs infrequently in young children especially when congregated in nurseries and foundling asylums. We venture to infer that a certain proportion of the deaths which now appear upon our records of vital statistics under the heading of gastro-enteritis, purpura, or marasmus are in reality cases of generalized pyocyanic disease. As to prophylaxis, nothing definite was offered, beyond the strict observance of the laws of hygiene, and that it is a disease eminently suited for trial of "serum therapeutics."

The final paper was upon "The Evolutionary Developments of Domestic Plumbing during the past Thirty Years," read by MR. J. W. HUGHES, of Montreal.

The paper prepared by DR. JESUS CHICO, of Guanajuato, Mexico,

ON THE ETIOLOGY OF MEXICAN TYPHUS,

As the author claimed is a new contribution, and was read by title. The subjoined is a brief abstract of the points noted. The author read a paper on the same subject at the meeting of the Association in Mexico in 1892. He maintains that the proportion of patients who contract typhus fever without any previous communication with another patient suffering from the same disease is above 90 per cent.; that the number of people who contract typhus when nursing one of its victims is exceedingly small and that there is evidently a relation between the ground and this ailment, because it is a fact that there are houses which are haunted by it, preferably to others, notwithstanding the care with which they are cleansed and disinfected.

In his new contribution he expatiates upon this topographical feature of the etiology of the disease, showing by several examples how its appearance and spread followed in the first case from excavations in the ground of the streets, and that in the second, spread of the disease followed the ground and not the atmosphere.

A vote of thanks was then, upon motion of Dr. Smith of Maine, tendered to Dr. LaChapelle, the courteous and able "bachelor" President, the same being seconded by Dr. Mendizabal, and was suitably acknowledged by the retiring Executive.

The Association, at 11:30 o'clock adjourned, *sine die*.

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SATURDAY, OCTOBER 27, 1894.

THE PASSING OF THE EUCALYPTUS.

One by one the fads and barnacles attached to the medical practice craft, are scraped off by the attrition of time. For several years everybody has believed that the planting of Eucalyptus trees in a malarious district, was one of the natural means of prevention of malarial poisoning. They were rather rudely jostled by TOMASI-CRUDELLI and KLEBS through the discovery of the *plasmodium malariæ*, but they were not entirely dislodged.

The article in the September number of the *U. S. Consular Reports* on the uses of the Eucalyptus tree would seem to have given the final stroke which sends the old belief to the limbo of exploded theories. That the fad has still a firm hold on the public is evident. CONSUL HALL, stationed at Nice, says:

"To illustrate the firm hold which this tree and its health-giving properties have upon the popular mind in this department, I am told that when these trees are trimmed in the early spring days in the Jardin Public, in the gardens of private villas, and on the streets, the branches are eagerly sought by all classes of people, who hang them with their cones on the walls of their bedrooms with the view of keeping off fevers and of getting rid of moths, mosquitoes, and other insects. Many persons make rosaries of the burs, and strings of beads, which they wear around their necks."

CONSUL JONES, stationed at Rome, says:

"Up to date (1886) not a single instance of hygienic improvement by the sole means of Eucalypti has been ascertained, but the possibility of so doing is not denied. It can be admitted that these trees sometimes prove useful in certain malarial soils. I frankly maintain, however, that frequently they are of no use whatever, and that it is well to guard against exaggerations that often blind the judgment."

"It would have been possible to avoid these exaggerations and the disappointments which followed as a consequence if, instead of regarding these plantations from a theoretical point of view, the public had begun by studying their results in the very home of the Eucalypti. It would then have been known in time that even in the southern hemisphere, where the Eucalypti thrive better than with us, there are forests of Eucalypti in which malaria reigns supreme, as has been stated by PROFESSOR LIVERSIDGE, of the University of Sydney. In Italy, although the newspapers had persuaded every one that the farm of the "Tre Fontane," near Rome, had become healthful by means of the Eucalypti, it proved a disagreeable surprise to learn of a sudden outbreak of malaria in 1882 that caused much sickness among the farm hands while the rest of the Campagna remained particularly healthful.

The experiments with the Eucalypti at "Tre Fontane" are interesting and instructive. On the road to Ostia, about three miles from Rome, is situated the abbey of the "Tre Fontane." There is a monastery of Trappist monks there who, for many years, have been endeavoring to improve the land adjacent to the monastery by means of setting out extensive vineyards, draining the soil and planting the Eucalyptus. It was reported that the hygienic condition of the locality had been much improved, and this improvement was ascribed by the public and the Government to the planting of the Eucalyptus by the Trappist; hence it was decided to extend the setting out of these trees.

To facilitate this experiment, the Government in 1880 established an agricultural colony of penitentiary convicts and put them in quarters near the monastery, that is, on that part of the farm supposed to have already been improved by the Eucalypti. The convicts were surrounded by hygienic conditions far superior to those of the agricultural laborers of the Campagna, and, notwithstanding this, nearly all the convicts were taken down with malarial fever more or less severe, in 1880. The Trappists started the setting out of the Eucalyptus in 1870.

During the summer and autumn of 1882, all of the inhabitants of the "Tre Fontane" were attacked. The Trappists, it would seem, suffered from slight attacks, but all suffered. Some of the convicts had slight and some severe attacks. Nearly every guard had a severe attack; the guards had all to be changed. There were no deaths, because medical assistance was at hand. The fever-stricken patients were well cared for in one of the hospitals of Rome.

DR. MONTECHIARE, a practicing physician of Rome who for years was physician to the penal colony at "Tre Fontane," tells me that his experience justifies him in declaring that no beneficial result against malaria has been derived from the planting of the Eucalyptus. The monks set out no less than 50,000 trees on a few acres. Had the efficacy of the Eucalyptus proven real, the entire settlement of the "Tre Fontane" would have become a veritable Eden on account of its wholesome, balsamic air, which has by no means been the case. In 1870, DR. MONTECHIARE, being in charge of St. John's Hospital, experimented with all the preparations of Eucalyptus against malarial fever, and found that not one lowered the temperature of the patient by a tenth of a degree. The only value of the elixir of Eucalyptus consists in the alcohol that it contains. The efficacy of the Eucalyptus for the improvement of the air is no greater than that of the elm, pine, and mulberry. If it recommends itself by its rapidity of growth, the trees just mentioned recommend themselves by being hardier and more easily grown.

PROFESSOR (NOW SENATOR) TORELLI has also written on the subject of the Eucalyptus. He sums up by declaring that the much-vaunted merits of the Eucalyptus have not been established.

Thus perishes the Eucalyptus hypothesis, but the tree itself will, we trust, continue to be planted and to thrive. In America the need of quick growing useful forest trees is so evident that even the loss of its reputed medicinal virtues should not condemn the Eucalyptus. We need more trees and denser forests for economic purposes quite apart from direct medical properties.

SANITATION IN JAPAN.

In the last issue of the JOURNAL we spoke of the excellent organization of the Medical Department of the Japanese Army and the special training of its members. The Japanese Government, however, has been progressive in other than military lines. It has been as careful of the welfare of the general population as of the health and efficiency of its military

support. Early in its history the present government instituted a Central Sanitary Bureau to remedy insanitary conditions and preserve the people especially from the ravages of imported cholera. Measures of general sanitation and for the prevention and suppression of all infectious diseases were at first under the entire control of this Central Bureau; but in 1888 a system of Local Sanitary Government was instituted, by which all sanitary and preventive measures were to be carried out by the people themselves through the medium of the local authorities of cities, towns and villages, the general government exercising only a necessary oversight. The occurrence of cholera and its rapid spread in 1890, soon after the institution of this change gave rise to much anxiety lest the unfamiliarity of the local authorities with measures of prevention should result in disaster. Happily, however, these measures, fully indicated in various memoranda issued by the Central Bureau, were generally well carried out; and the feeling of anxiety gave way to one of assurance that future epidemics would be met more effectively than the last, as it was expected that, with the development of the principle of self-government, the local authorities would become increasingly familiar with the execution of sanitary measures.

The reports of the Bureau are late in making their appearance, as they consolidate the reports from the various governmental districts; but the aggregation of facts published annually is really equivalent to that which the United States attempts to issue only once in ten years for the census year. A cursory glance over the report for 1890, just received, would occasion much surprise to those who have not followed the progress of Japan in reconstructing her institutions on models derived from our modern civilization. It may be of interest to cite a few points:

With a population of 40,692,808 the births numbered 1,145,174, or 28.15 per thousand; still births 91,752; illegitimate 66,253 or 5.8 per cent. of the total. The deaths numbered 821,043, equivalent to a rate of 20.18 and this notwithstanding the incidence of cholera, which was responsible for 35,248 deaths. The mortality is tabulated under twelve disease headings, and by sex and years of age (from 1 to 107) in the various districts. Of infectious diseases, cases as well as deaths are reported. There were 34,736 cases of typhoid fever with 8,464 deaths, a fatality rate of about 25 per cent. and a mortality rate of nearly 21 per 100,000 of the population. Typhus was rare,—a total of 251 cases with 67 deaths. Smallpox was equally rare, and the tabulations of successful and unsuccessful vaccinations explain its rarity. The statistics are given of the examinations of prostitutes for syphilis under the registration laws.

At Tokyo a committee on city improvements decided to raise a loan of 6,900,000 yen ($5,175,000) for water works; and the general government appropriated 150,000 yen annually for fifteen years to aid the city in paying the interest, as it highly commended this improvement, considering it to be the measure most urgently needed for the protection of the people from cholera while having the added advantages of "removing the causes of other diseases, improving the general health, prolonging life, affording protection from fire and generally increasing the pleasure of living as shown by the experience of various European countries." A similar appropriation of 50,000 yen annually was made on behalf of the city of Osaka.

Of 40,215 registered physicians only 30,003 practice, by virtue of their status before the passage of the acts regulating the practice of medicine; the others have been examined or are entitled to registration by their graduation from Imperial schools. Midwives, druggists and manufacturers of medicines are also registered and hedged in by controlling laws; and the sanitary laboratories of the Central Bureau at Tokyo, Osaka and Yokohama make examinations of various articles on behalf of the public, particularly with regard to water, food supplies and drugs.

Many of the items that we have just cited serve to show how far the young pupil has distanced some of her teachers. Even the report itself calls to mind that the United States has no such Sanitary Board to consolidate its vital statistics, and to consider those questions of public health that are of greater breadth than the lines limiting the jurisdiction of States and municipalities.

ERYSIPELAS TOXINS IN THE TREATMENT OF MALIGNANT TUMORS.

There is so much of promise in the recent developments of serum therapy, especially in the brilliant success of the antitoxin treatment of diphtheria, that new interest has been aroused in the work of experimenters in this line with other diseases. The labors of SPRONK of Paris, COLEY of New York, GEHRMAN of Chicago and others in the treatment of the malignant tumors by the erysipelas toxins shares in this revival to an extent which warrants some review of the subject.

The theory of an antagonism between the products of growth of the *streptococcus erysipelatosus* and some forms of sarcomata and carcinomata is founded upon observations that these tumors occasionally disappear coincidentally with, or subsequent to, an attack of erysipelas in a distant part of the body. It was found that they had undergone tissue necrosis with absorption or extension; that lesions of lupus and of tertiary syphilis were similarly acted upon, but that non-malignant growths were not affected by the incidence of erysipelas. Further investigation showed that the irritation which causes and perpetu-

ates tissue proliferation in a malignant growth is removed by the action of the erysipelas toxalbumins—the cells degenerating from want of blood supply; that the irritating agent in malignant and in non-malignant tumors differs in nature and result; and that the antagonism is systemic—probably brought about by changes in the blood serum, chemical and not phagocytic in nature. The results of these investigations led to the culture of the albumins produced by the bacteria of the disease, and their use in the form of definite infection dosage. The best method for the utilization of these toxins is not, as yet, positively determined; it is still under experiment and the results thus far demonstrate the necessity of great care in the culture of the bacteria and the preparation of their toxic products.

All cases do not react alike under the injections; thus far the sarcomata in general are more beneficially affected than the carcinomata; and of the sarcomatous growths osteo-sarcoma gives the least favorable results; in some cases marked improvement is noted at first, only to be lost in a short time by renewed growth. The treatment is not yet sufficiently developed to warrant its application in cases that offer reasonable assurance of non-recurrence after removal. There is, however, a sufficient percentage of cases in which there has been an entire disappearance of the tumor, of others in which there has been a marked decrease in size or delayed growth, and of still others in which there has been great relief of pain, to commend this method of treatment to further study and consideration.

It is asserted that the failure thus far to treat all malignant tumors successfully by the erysipelas toxins is due solely to want of knowledge of the specific nature of the growths and of the properties of the toxins and their combinations; and that the researches now being carried on offer good promise of ultimate ability to determine scientifically the special antagonism required in each variety of tumor.

But with the monumental failure of tuberculin in mind, let us wait patiently the full developments to be made by expert investigations.

A CO-OPERATIVE BACTERIOLOGIC INVESTIGATION.

The Committee on the Pollution of Water Supplies, of the American Public Health Association in its report submitted at the meeting in Montreal, Canada, September 25 last, suggested a coöperative investigation by American bacteriologists into the, at present, confused state of our knowledge on the important subject of the bacteriology of water supplies. The Association approved this suggestion and commended the efforts of the Committee in carrying out the work, to the officers of State and municipal boards of health, to the individual members of the Association, and to all persons interested in the purity of water supplies, for such special assistance as they may be able to render. The proposition of the Committee was to the effect that each laboratory willing to coöperate in the work devote itself particularly to the investigation of a single so-called group or species of water bacteria; and that uniform standard culture media be adopted, with the employment of these along the line of a definite systematic scheme of laboratory work. The Committee, when its membership is complete, will consist of those participating in the work. In the meantime its organization is in progress. A sub-committee charged with the duty of making a preliminary survey of the field and elaborating the framework of a scheme of combined work to be submitted to those interested, has issued its first circular letter, a copy of which appears in another column of this issue of the JOURNAL. The advantages to be derived by bacteriology from this scheme of coöperative work are obvious; and the practical results lying in the pathway of such an investigation are lessened sickness and mortality from diarrheal diseases and typhoid fever.

We shall look with interest for further information concerning the progress of the organization of this committee of co-laborers in the field of sanitation and preventive medicine.

THE TREASURER'S NOTICE.

Under the heading of "Association News" we again print the notice issued by our ASSOCIATION Treasurer who very properly gives the reasons why members in arrears should lose no time in promptly remitting the amount of their annual subscriptions due last June. Every sentiment of professional pride and ASSOCIATION fellowship should enlist our members in the good work of supporting the Trustees in their efforts to give the members and the medical profession of America one of the best medical journals in the country.

It should be a source of pride to the ASSOCIATION that its JOURNAL office is now prepared to do all the work required of it, but it must be remembered that heavy drafts on the ASSOCIATION treasury were made in order to accomplish it. The presses are paid for, and the new equipment has not a penny of indebtedness resting upon it, but it will require money to maintain the mechanical department, purchase news and keep up the standard. There will be no lack of funds if our members who were not in attendance at the last meeting will kindly respond to our worthy Treasurer's call without further delay.

CORRESPONDENCE.

Mitral Stenosis and Pregnancy.

CHICAGO, Oct. 13, 1894.

To the Editor:—Some years ago there came to my consulting room a young woman, bride of two summers, wife of a

prominent criminal lawyer. She was in her third month of utero-gestation, and consulted me regarding an annoying cough, dyspnea and a slight hemoptysis, the latter on the morning of the day she called at my office.

From facial landmarks I feared my visitor a tuberculous subject. Her penciled-like eyebrows, long, silken eye-lashes, clear sclerotics, rather prominent cheek bones, and slender tapering fingers all pointing in that direction, but mark you my surprise when I placed a stethoscope over the heart and found I had a pronounced case of mitral stenosis; this told the story of how the sputum came to be tinged with blood We know that the auricle must accommodate for the defect, and if it does so imperfectly, the accumulation of the blood passes through it to the veins of the lungs, capillaries and arteries until it reaches the right ventricle, which in turn dilates or hypertrophies, giving rise to the condition my patient described, and which was indeed more marked at the fifth month, and thus caused hypertrophy and dilatation of both ventricles, for we know that with mitral insufficiency during diastole of left ventricle from the dilated auricle, there flows the blood which has accumulated in quantity and pressure, dilating it and forcing the auricle to dispose of the overplus of blood, thus sending part forward to the aorta, and part is sent back through the mitral orifice into the auricle, which becomes in time hypertrophied.

My patient at full term was delivered of a healthy male child—nothing over ordinary having disturbed the mother until an hour after delivery, when she was distressed for breath, and the peculiar sputum of pulmonary congestion with the tumultuous heart action threatening to carry, by its sudden onslaught, the new parental life beyond all human aid. Fearing this sort of trouble, I was careful to notice that my patient was not given ergot, and that she was kept well covered, and flowing encouraged. I gave hypodermatically atrop. sulphate strych.; also carbon of ammonia by mouth, but not until I gave oxygen inhalations did my young mother manifest any sign of improvement. It was gratifying, indeed, to me and a great blessing to this parent life, to watch its grand supporting, restorative and therapeutic action.

This wife has since said date safely presented to her liege lord another heir without any untoward symptoms through the free inhalation of oxygen.

My patient during attacks of dyspnea which occur somewhat frequently, finds instantaneous relief through inhalations of pure oxygen, and claims that she is enabled to perform her domestic duties without feeling fatigued or further disturbed, either in respiration or circulation.

J. A. MCDONELL, M.D.

About Rotten Row.

CHICAGO, Oct. 8, 1894.

To the Editor:—On my return from a summer vacation, in glancing over the medical literature that has accumulated on my library table, I find among the articles attracting my attention one appearing under the name of our eminent colleague, Prof. Edmund Andrews, of Chicago. In this he makes a most earnest, well-timed, and important plea for the use of English, pure and undefiled, in the writing of medical articles. Far too little attention has been given to this subject in this country. In England and in France, a man appealing in print to the attention of his *confrères*, must, in order to secure a hearing, use his native language in its purity and simplicity.

But Professor Andrews has made a singular error in his interesting paper to which I desire to call your attention. He refers to the title, "Rotten Row," the name of one of the Hyde Park driveways (or, as it would be called in this country—not in France—"boulevards") and suggests that it originated from a row of tumble-down structures which had been removed in order to improve the Park. The pertinence of this allusion is in the line of illustrating the force, vigor, and homeliness of the pure speech of the Anglo-Saxon.

But the facts are different. Hyde Park in London has been reserved for practically its present purposes ever since the days of Henry VIII. and Edward VI. Even in the time of Elizabeth its acres were devoted to "herbage, pannage, and browsewood for the deer." None of less rank than a knighted gentleman could have charge of its fine oaks and gardens even as early as 1596. There is no record in its history of a row of old buildings torn down to make space for a driveway, and which survive in the "rotten" appellation of the modern Park road.

The name "Rotten Row" is a corruption, common enough on English lips which never did take kindly to foreign names, of the "*Route de Roi*," or king's highway; the English name of which is as classical in our tongue as many other simple words for which so good a plea is made in the article to which I have referred above. AMERICANUS.

Columbian Ambulance Association.

CHICAGO, Oct. 18, 1894.

To the Editor:—The Ambulance men, patrolmen, policemen and firemen of this, our city, have no training in handling or relieving the needs of the sick or injured people who come into their hands. For the sake of humanity we propose to take up this work and commence in these departments. In a short time we hope to have the majority of the men trained to relieve the sufferings of an injured man as much as is possible. This will result in saving untold sufferings; in life and limbs.

We have already made arrangements with the Chief of Police to start at the Harrison Street Police Station.

The cost of each class is about $60.

We hope to raise the money for this and for the purchase of a model ambulance and equipment, later on, so that sick, bed-ridden and injured people may be transported in a manner satisfactory to patient and medical attendant alike.

For these purposes we require the sum of $5,000 which we hope to raise by 1,000 memberships of $5 each.

Please send your check to D. J. Wile, Treasurer, Unity Building.

By order of Executive Committee,

ADA C. SWEET,
H. W. GENTLES,
Committee.

ASSOCIATION NEWS.

Section on Materia Medica and Pharmacy.

Annual Meeting held in Odd Fellows Hall, San Francisco, June 5–8, 1894.

DR. FRANK WOODBURY, of Philadelphia, Chairman, called the meeting to order, and DR. GEORGE F. HANSON, of San Francisco, was appointed Secretary, in the absence of DR. F. E. STEWART, who was detained until the second session.

THE CHAIRMAN said that a formal address on the present state of materia medica and pharmacy would be unnecessary in the presence of members of the American Pharmaceutical Association, who came as invited delegates to attend this meeting, and also in the hearing of others present who were widely known as authorities and teachers on these subjects. He deprecated the recent great multiplication of new remedies many of which have toxic properties. Every agent capable of disturbing the physiologic processes of the

human body sufficiently to give it value as a remedial agent, may on the other hand cause a disturbance of the system which is injurious. In other words, according to the old adage: "A remedy is a two-edged sword," and may do harm as well as good. The vulgar mistake therapeutically, which is often made, is to suppose that remedies have only the one special action which is designed to be attained, when it may have a number of others which, if fully recalled, would contra-indicate its employment. It is a great evil that general practitioners are appealed to by specious arguments, to prescribe unknown novelties to their patients on the strength of newspaper advertisements. Every proposed new remedy should be thoroughly studied in the laboratory and hospital under scientific conditions, and not until its value and limitations had been thus fully determined should the physician venture to employ it in his private practice. The great objection to the employment of proprietary remedies is that nothing is known of their composition, and until this is divulged they can have no scientific standing, therefore a grave responsibility is assumed by a physician who orders such an unknown preparation for his confiding patients. It is a subject of congratulation that since our last meeting a new edition of the Pharmacopœia has appeared, and also a new edition of Wood, Remington and Sadtler's United States Dispensatory. Although pharmacy has sustained a severe loss in the death of Professor Maisch, yet it is a source of gratification that his work on the American Dispensatory had so nearly approached completion that the work has appeared at the expected time.

In view of the great importance of medical botany to the physician, as well as the pharmacist, the following resolution is submitted in the hope that it may be approved by the Section:

Resolved, That the AMERICAN MEDICAL ASSOCIATION directs the attention of the medical colleges of the country to the general neglect of the study of botany by medical students, and it is the sense of this Section that the teaching of general descriptive botany should be made a part of the curriculum of study in every medical school.

The above resolution was immediately acted upon, and unanimously adopted, and ordered to be sent to the general session with the addition of the following sentence:

"The delegates from the American Pharmaceutical Association present at this meeting, concur in this action."

The following resolution was also offered at the suggestion of the Chairman, and the same action taken:

Resolved, That the American Pharmaceutical Association be invited to contribute to the JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION reports of examinations of proprietary and secret nostrums, made under its direction. The officers of the Section on Materia Medica and Pharmacy to act with a committee to be appointed by the American Pharmaceutical Association as a Committee of Conference in order to carry this resolution into effect.

Report of Nominating Committee: For Chairman, Frank Woodbury, Philadelphia, Pa.; for Secretary, Geo. F. Hanson, of San Francisco, Cal.; for members of the Executive Committee, Drs. Frank Woodbury, of Philadelphia; F. E. Stewart, Watkins, N. Y.; H. M. Whelply, of St. Louis, Mo.

DR. WOODBURY declined to serve another year and nominated Dr. H. M. Whelply, of St. Louis, Mo., as Chairman. The report of the Nominating Committee was then adopted as amended.

Circular by the Permanent Secretary.—The Permanent Secretary has issued the following circular:

At the session held June last, the following was adopted:

"WHEREAS, This ASSOCIATION has long recognized the advantages to be derived from the more intimate relation between the State Medical Societies and the AMERICAN MEDICAL ASSOCIATION; it is hereby

Resolved, That we request the various State Medical Societies to perfect their local organizations, so as to include as far as possible, in the membership of their district societies every regular practitioner within the State;

"That these local societies shall actively coöperate in urging a general attendance upon the annual meetings of the State Societies;

"That the date of the same be so fixed that it shall not interfere with the attendance of those members who are delegates and members of the AMERICAN MEDICAL ASSOCIATION; in order that a general unification of the interests of the medical profession be promoted, and the AMERICAN MEDICAL ASSOCIATION become in a yet higher degree the exponent of the profession;

"That we also request the State Societies to unite in establishing a uniform standard of professional requirement for admission to the practice of medicine and to aid, as far as possible, in advancing the scientific status of the same by the appointment of State Examining Boards, independent of the teaching faculties of the medical colleges. To this end we further direct that the Permanent Secretary of the AMERICAN MEDICAL ASSOCIATION enter into correspondence with the secretaries of the several State Medical Societies and furnish annually a written report of the membership of the State Societies and the working effectiveness of their organizations."

Please acknowledge the receipt of this communication, and send me the following information to enable me to report as directed:

Number of members of your society.

List of auxiliary local societies, and, if you can, the membership of each.

Any other information which you may deem of interest in this connection.

Our next meeting will be held in Baltimore, Md., May 7, 1895. Yours very truly,

WM. B. ATKINSON, M.D.

Treasurer's Notice.—Members of the ASSOCIATION knowing themselves to be in arrears will please send the amount of their annual subscription to the Treasurer, HENRY P. NEWMAN, M.D., Venetian Building, Chicago, without delay.

The great expense on account of the establishment of the new JOURNAL office, makes it more than ever necessary that our members should be prompt in their response to this notice.

SOCIETY NEWS.

The Medical Association of Western New York held a meeting in Buffalo, October 16.

The Franklin County (Pa.) Medical Society held a well attended meeting October 17.

The Hartford County Medical Society held its semi-annual meeting in Hartford, October 24.

Wabash Railway Surgeons.—The twelfth annual meeting of the Wabash Railway Surgeons will be held in St. Louis, November 1.

The Oshkosh Hospital Association is the title of a new corporation with a capital stock of $25,000 divided into shares of $100 each. The incorporators are E. P. Sawyer, J. H. Jennings, W. A. Gordon, G. M. Steele, and B. C. Gadden.

The Military Tract Medical Association, of Illinois, held its annual meeting in Quincy, October 19. The following officers were elected: President, L. L. Ryan, of Galesburg; first Vice-President, Louis Becker, of Knoxville; second Vice-President, C. B. Horrell of Colchester; Secretary and Treasurer, H. M. Harrison of Quincy.

The Central New York Medical Association held its twenty-seventh annual meeting in Buffalo, N. Y., October 16. The attendance was about one hundred and twenty. The following officers were elected: President, F. S. Crego, of Buffalo; first Vice-President, W. S. Cheesman, of Auburn; second Vice-President, E. L. Mooney of Syracuse; Secretary, E. B. Angell.

Ohio State Medical Society.—The third semi-annual meeting of the Ohio State Medical Society was held in Dayton, Oct. 12. The following officers were elected for the ensuing year: President, W. L. Buechner, Youngstown; First Vice-President, James F. Heady, Glendale; Second Vice-President, A. T. Quinn, Wilmington; Secretary and Treasurer, C. H. Mertz, Sandusky. Member Executive Committee, B. M. Ricketts, Cincinnati.

The Lycoming County (Pa.) Medical Society at their September meeting had a report of a case of stab wound of the stomach with recovery, by Dr. Fleming. Drs. Bell and McCormick discussed the question as to typhoid fever being a self-limited disease. The former asserting there was no drug or form of treatment that limited its duration, and the latter took the position that there was nothing in its clinical history or morbid anatomy which would place it among the self-limited diseases, and that if seen early it should be aborted.

Dr. G. D. Nutt presented and described a new instrument for removing the obstruction in membranous croup.

The many objections raised to intubation in pseudo-membranous croup has suggested the feasibility of an instrument by which the false membrane in this disease, which is often loose and easily detached, might be removed prior to the introduction of the proper tube; or in severe and protracted cases, by clearing the trachea from time to time, afford sufficient relief to breathing. Thus allowing the patient to take medicine and nourishment.

A rough diagram was made containing the principles of the introductor of O'Dwyer's tubes, and the bristle probang of the throat, and sent to Geo. Tiemann & Co., who made the neat and efficient instrument so plainly shown in the accompanying wood-cut.

The instrument is to be introduced in the trachea in the same manner as we place a tube, having the mouth kept open by a gag. Then spread the bristles the desired width and remove it. The bristles are supposed to catch and remove the loose membrane. The proper width of the bristles can be obtained by the distance we push the knob on the handle. A small indicator near the knob shows the different diameters the bristles can be spread. I have had only one opportunity of using the instrument since it was made. It was on a child aged 5 years, having diphtheritic croup. It was easily introduced, and caused but little distress. On its removal a complete cast of the trachea, about one and one-half inches long was expectorated, with some of the membrane clinging to the bristles. The relief to breathing was quite marked and continued for several hours, but the child subsequently died from exhaustion.

New York Academy of Medicine.—There will be a joint session of the Medico-Legal Society and the Section of Medico-Legal Surgery, at the Academy of Medicine, New York City, on Thursday, Nov. 15, 1894, at 8 o'clock P.M. President H. W. Mitchell, M.D., in the chair. The program is as follows:

Election of new members and miscellaneous business; nomination of officers for the ensuing year.

Session of the Section on Medico-Legal Surgery, Chief Surgeon Granville P. Conn, M.D., in the chair.

Opening Address, by Chief Surgeon Granville P. Conn, M.D., on "Hygienic Training of Men in Charge of Railway Trains." Discussion of same limited to five minutes each.

"Expert Examination of Plaintiff in Damage Cases, when Ordered by the Court." By George Chaffee, M.D., ex-President New York State Society of Railway Surgeons. Discussion, limited to five minutes by Clark Bell, Esq., Judge Roger A. Pryor, Nelson Smith, Esq., Judge Abram H. Dailey, H. W. Mitchell, Professor Stillings, of N. H., Chief Surgeon V. C. R. R., M. Cavana, M.D., and ex-Surrogate R. S. Ransom.

"The True Line of Duty of the Railway Surgeon." By Clark Bell, Esq. Discussion, five minutes each, by Surgeon George Chaffee, M.D., Surgeon A. M. Phelps, M.D., R. S. Harnden, M. D., C. M. Daniel, M.D., S. S. Thorne, M.D., J. B. Murdoch, M.D., Nicholas Senn, M.D., W. B. Outten, M.D., G. P. Conn, M.D., and others. Eminent surgeons have been invited to submit views on this subject who can not be present. Reports will be read from various parts of the whole country.

"Medical Witnesses." By R. S. Harnden, M.D., ex-President Erie Railway Surgeons. Discussions, five minutes each, by H. W. Mitchell, M.D., Chief Surgeon Estes, Lehigh Valley, R. R., M. Cavana, M.D., C. M. Daniels, M.D., and others.

The New York State Association of Railway Surgeons holds its annual meeting at the Academy of Medicine on same day—morning and afternoon session—to which all our members have been invited, and the members of that Society are cordially invited to attend our meeting, and take part in the discussion.

A general attendance is requested. Members, not on program, wishing the floor, on either subject, will forward their views, in brief, to the Secretary, if unable to be present. Members will please be prompt in attendance.

For Section on Medico-Legal Surgery.
GRANVILLE P. CONN, Chairman.
CLARK BELL, Vice-Chairman and Secretary.
GEORGE CHAFFEE, M.D., Treasurer.

For Medico-Legal Society,
H. W. MITCHELL, President.
CLARK BELL, Secretary.
F. B. DOWNS, M.D., Assistant Secretary.

NECROLOGY.

STUART DOUGLAS, M.D., died Monday, the 14th inst., at New York City. He was a native of Alexandria, Virginia, born there in January, 1861. He graduated in medicine at the University of Virginia when he was 20 years of age, after having taken both the academic and medical courses. He also took a medical course at one of the New York colleges, and soon afterward received an appointment as physician to the Asylum on Ward's Island. In 1887 he was promoted to the responsible position of Physician-in-Charge at the Insane Pavilion attached to Bellevue Hospital. He became a member of the New York Academy of Medicine and of the staff of the Vanderbilt Clinic. His teaching positions in the line of his specialty, in nervous and mental diseases, were in the New York Post-Graduate School and in the University Medical Department. He was frequently called upon to testify as an expert alienist. His fatal malady was Bright's disease of the kidneys. He was unmarried.

CHAS. P. SMITH, M.D., of Chester, New York, died Oct. 12, 1894, in the sixty-seventh year of his age. He was a graduate in medicine from the Castleton School, class of 1851. He had been a practitioner of Orange County over forty years and had been the President of the local Board of Education. He left a widow and seven children. He was a man of refinement and scholarly attainments.——Wm. Mitchell, M.D., of

Monmouth, Ill., October 14, aged 82 years.—Stephen E. Mossop, M.D., of Seymour, Ind., October 16, aged 79.——H. L. Cowan, M.D., of Ingleside, W. Va., October 14. He was a graduate of the Virginia Medical College, and the University of Virginia, and about 42 years of age.——A. S. Hickey, M.D., of Auburn, N. Y., October 17 aged 56.——Jacob Newkirk, M.D., formerly a practitioner at Roxbury, Delaware County, New York, died at Binghamton, on August 13 in his ninetieth year. He graduated over half a century ago, at the now extinct medical school at Fairfield, that bore the almost forgotten name of "The College of Physicians and Surgeons of the Western District of New York."

PUBLIC HEALTH.

Of no Further Interest.—Latest advices—cable dispatches of the 23d inst.,—announce such a decrease of Asiatic cholera in Europe as to deprive the disease of any further interest this season to public health authorities. For the week ending October 10, Surgeon Fairfax Irwin, U. S. M. H. S., reports a decline of nearly 50 per cent. in the number of cases in Austro-Hungary, which has been the principal seat of the disease in Europe outside of Russia. In this latter country, also, the decrease has been marked and the belief is expressed that the advent of cold weather will put an early end to the epidemic. The port of Marseilles has been declared free from the disease and inspection of vessels has been discontinued; "sporadic" cases continue to occur elsewhere in France and in Holland and Belgium, but these excite no alarm and the cholera epidemic of 1894 in Europe is practically at an end.

Hygiene in A. D. 1900.—The program for the exhibit of progress in civil and military hygiene, at the International Exposition to be held in Paris in 1900, is already completed and is published in *The Medical Week* of October 5. It embraces nine divisions, the scope of which are sufficiently indicated in the following titles: 1, science of hygiene, its history and progress; 2, personal hygiene and hygiene of dwellings; 3, hygiene in public buildings and collective establishments; 4, hygiene in rural communities; 5, hygiene and sanitation of cities; 6, defense of frontiers against pestilential diseases. 7, provisions and utensils; 8, mineral waters and sanatoria; 9, sanitary statistics and legislation. As is entirely proper, the application of the discoveries of Pasteur to the prophylaxis of infectious diseases will be given a prominent place, as constituting one of the chief glories of France. The sanitary services of the Army and Navy and of societies for extending aid to the wounded are to be grouped in a separate class. A curious dispute, by the way, has arisen in connection with the date of this International Exposition. It was projected to celebrate the birth of the twentieth century rather than to commemorate the nineteenth. But M. Camille Flammarion and Dr. Bertillon disagree as to which century the year 1900 belongs to, and two sharply opposing parties have formed under their respective leaderships—the one contending that the nineteenth century will end with the close of the year 1899; the other arguing, with equal earnestness, that the twentieth century can not possibly begin until Jan. 1, 1901, just as the second decade of figures begins with 11, while 10 closes the first. So heated has become the discussion and so uncompromising are the opposing parties that, according to the Paris correspondent of the New York *Sun*, it has been proposed the Government shall fix the *Fin de Siecle* by official decision. At the proper time, placards like theatrical posters are to be displayed: "Tomorrow, close of the nineteenth century! Day after tomorrow, opening of the twentieth century! Entrance free!"

Smallpox and Darkness.—The mild autumn weather seems thus far to have retarded the anticipated diffusion of smallpox. There is, nevertheless, a sufficient number of foci in the country to keep health authorities on the alert and to lend interest not only to preventive efforts but to suggestions of new modes of treatment. The *Texas Sanitarian* calls attention to the use of the bichlorid solution "discovered" by Dr. T. C. Osborne, Health Officer of Cleburne, Texas, and "is surprised that a claim to a discovery of such vast significance and value, given to the profession by a veteran physician of unimpeachable integrity and of half a century of observation in an extensive practice, should have attracted so little attention." Dr. Osborne "adds a teaspoonful [of the mercuric chlorid] to a bowl of water and applies it freely to the entire surface." If the "discovery" has as yet failed to receive proper attention it may be, as the *Sanitarian* sagely remarks, because "one swallow does not make a summer, nor one case establish a truth," and the claim thus far is based on one case only. The "red chamber method," on the other hand, is just now receiving a vast amount of attention on the Continent, recent issues of *The Medical Week* containing elaborate papers on this method by Drs. Oettlinger, of Paris, Finsen, of Copenhagen, and others. This treatment—which consists in isolating the patient in a room into which only the red rays of the solar spectrum are allowed to penetrate; or, carried to its extreme, in a room kept in complete and unbroken darkness—is a revival of a method in vogue in the eighteenth century, but abandoned since the days of Sydenham. Frequent attempts at its revival have been made during the last twenty-five years, but they have never before attained such importance as at present. In this country it was announced during last winter that one of the smallpox pavilions on North Brother Island in New York harbor was to be fitted up with red glass windows and with red glass globes for the lights used at night, and otherwise prepared for a trial of the method. Some such test on a large scale will be necessary before there is any general reversion to the exclusion of light and air, the clothing of the patient in red garments and his bed and room in red coverings and draperies, as was the practice in the pre-Jennerian days and as is still the custom in Roumania and other parts of Europe and in many provinces of China.

With Benevolent Reserve.—Even that congenital skeptic Prof. Mariano Semmola, of Naples, who was among the first to condemn—and justly, as the event proved—the tuberculin of Koch, approves with what the *Lancet* (London) quotes as "benevolent reserve," the wonderfully successful serum treatment and prophylaxis of diphtheria. Semmola's "reserve" is, confessedly, inspired by a present inability to comprehend the true mechanism of the antitoxin action—an inability which in one of his exacting logical nature, arouses incredulity. It is no doubt true, as he asserts, that "we have no demonstrated example of salutary chemical antidotisms which take place in the circulatory torrent based upon reactions analogous to those of the recognized antidotes." But that is only to say that we do not yet know "the altogether" of the vital forces and their action. Meanwhile, the Professor has been so far impressed by the accumulating mass of evidence of successful results that, as the *Lancet* records, he has been instrumental in sending a distinguished alumnus, Dr. Alfredo Montefusco, to Paris, there to master at the Pasteur Institute the new method of treatment, with the object of testing and "checking" it at Naples under Semmola's own supervision. The only other dissonant note in the general chorus of praise of the diphtheria antitoxin is that sounded by a few who hold that a sufficient period has not yet elapsed in which to fully test its merits—it has been used now for about three years; that the present incidence of diphtheria, in which such almost miraculous results have been obtained may not be of the severest type, and that it remains to be seen whether antitoxin will

stand the test of one of the severe epidemics—the *foudroyant* cases, that carry off their victims in a few days."

Appeals for subscriptions to defray the expense of free anti-diphtheria treatment continue to appear, among recent ones being that in behalf of the Children's Hospital in Berlin, signed by Virchow, Skrzecska and Siegmund, and another headed by Prince Schoenaich-Carolath, who has accepted the chairmanship of a committee to furnish the serum free for the treatment of the poor. The German Imperial Board of Health has proposed that the production of the serum be made a State monopoly, but the proposition has not met with favor, and instead it is suggested that the Government make special appropriations of funds for its purchase for the use of hospitals and clinics under State control. The British Institute of Preventive Medicine, which, as previously noted in the JOURNAL, has undertaken the production of the serum on a large scale, has secured the services of Sir Joseph Lister under whose supervision the antitoxin "plant" has been placed, and it is expected to supply the product at sixpence a dose; the present price is about the equivalent of $1.75 to $2.50 a dose, according to the strength of the serum. Finally, a cable dispatch of the 24th inst., announces that M. Casimir-Perier, President of the French Republic, has visited the Pasteur Institute, inspected the establishment, including the horses which furnish the serum, and took the occasion to decorate Professor Roux with the order of Commander of the Legion of Honor in recognition of his services in connection with this, the most notable achievement of Pasteurism yet recorded. M. Roux, in expressing his appreciation of the honor, modestly disclaimed pre-eminence and declared that MM. Behring and Löffler were the first discoverers of the properties of the antitoxin.

MISCELLANY.

Dr. Austin Flint, of New York, has been elected President of the New York State Medical Association for the ensuing year.

Dr. Arthur W. Hurd is to be appointed Superintendent of the Buffalo State Hospital, Buffalo, N. Y., to succeed the late Dr. Judson B. Andrews.

The Marion-Sims College of Medicine, St. Louis, opened with 265 matriculates, and with a Senior class of 70. The Faculty has authorized a delegation to represent the College at the unveiling of the statue of J. Marion-Sims in New York City, on the 18th inst.

Medical Press Association.—The following has been issued: "The Medical Press Association (of France), following its fraternal work in favor of Dr. Lafitte, hopes to realize its project of a subscription in aid of the children of our unfortunate *confrère*. A committee has been formed to collect the subscriptions which should be addressed to Dr. Marcel Baudoin, 14 Boulevard Saint-Germain, Secretary-General of the Association."

Lucrative Charlatanism.—The police of Kieff recently arrested a farrier who had arrived there from Warsaw and was "curing" all sorts of diseases with his "Miraculous Pills." In his rooms were found 3,782 letters asking for these pills and containing 11,807 rubles. Among the writers were not only individuals of the so-called intelligent classes, clergymen, etc., but pharmacists and chemists. A French contemporary remarks that these pills were no doubt "miraculous"—but the miracle was wrought in favor of the seller, not the purchaser.

Village Sanitation.—A resolution adopted by the Tropical Section of the International Congress of Hygiene at its recent meeting at Buda-Pesth has as much interest for the rural communities of this country as for the inhabitants of India, on whose behalf it was adopted after the reading of a paper by Miss Florence Nightingale. The Section considered that the best results would be obtained through the coöperation of the people themselves if they are instructed in the primary rules of health. The most pressing needs appear to be a wholesome water supply and the removal of refuse and other insanitary matter from the neighborhood of dwellings.

Ernest Hart on Holmes.—In the current number of the *British Medical Journal*, Mr. Ernest Hart, its editor, gives a most interesting, albeit discursive, account of his last visit to Oliver Wendell Holmes, made during Mr. Hart's tour of this country during the World's Fair year. The account closes with the following appreciative tribute: "And so I passed away from the presence of one of the most lovable and notable figures of modern medicine, a personality pregnant with the perfume of ripe and sweet old age, and leaving recollections of a rarely perspicuous and sympathetic insight, a playful and pungent but not caustic humor, and a pervasive benevolence which was far reaching but discriminating."

Medical Women in Bosnia.—In connection with the Hygienic Congress recently held at Buda-Pesth, it is reported that a document was issued, on behalf of the Government of Bosnia and the Herzegovina, in which it is stated that there is reason to hope for an important improvement in the sanitary condition and health of the female population of Mahommedan countries through an increase in the number of lady doctors. Mahommedan women have, on religious grounds, an invincible antipathy to treatment by men. The sad consequence of this repugnance is that they are almost exclusively attended by ignorant and superstitious nurses. Under such circumstances it is easy to conceive what a high death rate prevails. The Bosnian administration is endeavoring to lessen this evil by the introduction of lady doctors.

Princess Christian's Paper at the Buda-Pesth Congress.—The subject of the paper prepared by the Princess, as President of the Royal Association of British Nurses, was the progress made in the care of the sick and the extension of sanitary and hygienic knowledge in Great Britain during recent years. The paper was read in Section 19, the Sanitarian Federation, by Dr. Thorne, the Secretary of the Association. The subject was the importance of special education and training for nurses for the sick, and the steady and encouraging progress made in this direction in the United Kingdom. No hospital of importance was now considered complete without a training school for nurses. The paper gave a *résumé* of the Royal Association of British Nurses, the roll of which now bears the names of two thousand nurses, all of whom have undergone three years of probation. The curriculum was then described and the hope expressed that the time was not far distant when the State would see the importance of recognizing a definite diploma of nursing, and giving an official sanction to the maintenance of the register. In conclusion, emphasis was laid on the fact that nurses must also be good women, in the highest and best sense of the word.

The Angel of Death is Fleet.—The *Glasgow Medical Journal* has the following antique legend, the moral of which is that Azrael had every facility at his disposal for the harvest of souls whenever the dread message was pronounced. According to the legend the ingenuity of man is wasted in trying to circumvent the grim pursuivant. The story is of King Solomon, who figures largely in Oriental tradition outside of Hebraic lore. It is told of him that, walking one day in a great city, accompanied by a friend, an awesome figure was perceived by them at the head of the street.

"Who is that?" inquired the friend in terror.

Solomon looked and answered: "It is the Angel of Death."

Then the friend begged of Solomon, who had the power of

instantaneous transportation, to send him at once to some far off spot, and Solomon despatched him in a moment to India, thousands of miles away.

The Angel of Death meanwhile approached Solomon and asked: "Who was that man with whom you were just talking?"

Solomon gave the name, and the Angel of Death said: "Strange that he should have been here, for I am ordered to call for him to-night in India!"

What Constitutes the Port of Departure.—To prevent the introduction of contagious diseases into the United States from foreign countries, Congress passed an act (27 Statute 449) in 1893, requiring that each ship leaving a foreign port must obtain from the United States consul stationed there, a clean bill of health. Should the vessel stop on the way at other foreign ports, a similar bill must be obtained at each of such ports. Without such bill or bills of health, it is, by the above-named act, unlawful for a vessel to enter a United States port, and a fine of $5,000, or less is declared the penalty for non-conformance with this act. In the case of the United States v. the steamship *Dago*, carried to the United States circuit court of appeals, it was shown that the *Dago* cleared from Bristol, England, for Baltimore, without having obtained the bill of health. It was therefore alleged by the United States that the seizure of the ship by the collector of customs at Baltimore, to be released on payment of not more than $5,000 (the exact amount to be fixed by the court) was in accordance with the law. The vessel filed an answer claiming that she had complied in all respects with the requirements of the law, having procured a bill of health from the American consul at Newport, Wales, which she claimed as her last port of departure, although it was shown that she merely called there on her way to Baltimore, having cleared from Bristol, England. The court of appeals held (May 22, 1894) that this was not a valid defense, as the port of departure was not the port last touched at, but the port cleared from, and the bill of health, to meet the requirements of the law, should have been procured at Bristol. By means of this wise decision vessels can not, hereafter, claim to be conforming with the law if they "clear from an infected port, stop on the way at another port not so infected, secure the bill of health that would enable them to enter the ports of the United States," and thus defeat the object of said act of Congress by carrying infection to American ports.

Dates of First Snow Falls in the United States.—In the last *Monthly Weather Review*, issued by the Agricultural Department, Prof. Cleveland Abbe gives a table of the dates of the first snowfall of the winter at each of 108 stations of the Signal Service or Weather Bureau, for each of the eight years, 1886–87 to 1893–94 inclusive. Cases in which snow was reported as having fallen on the mountains near by are not imcluded, nor are the mountain stations of Pike's Peak and Mount Washington, because although snow appears nearly every month of the year at these places this is to be considered as indicating the condition of the air in the cloud regions into which their summits penetrate, rather than the climatic conditions proper to the lower arable earth where snowfall is so important to agriculture. The earliest recorded fall was at Buffalo, N. Y., Aug. 28, 1891, but this seems to have been a purely local phenomenon as none of the other stations had a snowfall on that day. Some parts of the extreme Northwest get snow in September and nearly always before October has passed. Occasionally snow appears in New England in October, and failing that, certainly in November. The dates of first snowfall in New York and Philadelphia do not differ much from those of New England. In Chicago the earliest fall was on Oct. 18, 1888, the latest first fall on Nov. 17, 1886; last year it occurred on November 15. The South Atlantic States had no snow in 1887–88, nor in 1890–91. Key West, Fla., Yuma, Ariz., and San Diego and Los Angeles, Cal., had no snow during the period of eight years; and Brownsville and San Antonio, Texas, would have been added to this list but for a light fall in 1887–88. "A chart showing the total snowfall from July 1, 1893 to June 30, 1894 is being prepared for publication in the *Review* when the important relations between snowfall and topography, geology, forestry, agriculture, water supply and other matters will be mentioned."

A Co-operative Bacteriologic Investigation.—The following is the circular letter referred to in our editorial remarks under the above heading. It is requested that replies be sent to Dr. Adami, McGill University, Montreal, Canada:

AMERICAN PUBLIC HEALTH ASSOCIATION. (*Committee on Water Supply.—Letter No. 1.*)

Sir:—Owing to the unsatisfactory state of our knowledge in regard to the differentiation and identification of species of bacteria in water, a proposal that coöperative work upon the subject should be undertaken among American bacteriologists was recommended in the report of the Committee of the American Public Health Association upon "Pollution of Water Supplies," at the meeting of this Association in Montreal, Sept. 25, 1894. This proposition, emanating from the McGill University, Montreal, advises the adoption of uniform standard culture media and the employment of the same along the lines of a definite systematic scheme, to be determined upon by the associated workers. It was further proposed that each laboratory, willing to coöperate in this work, devote itself particularly to a single so-called group of species of water bacteria. The necessity for some such coöperative plan is generally recognized by experienced bacteriologists, and this recommendation received the cordial and substantial support of the American Public Health Association in the form of a grant for preliminary expenses.

We, the undersigned, having been appointed a sub-committee and charged with the duties of discovering to what extent the bacteriologists of America are willing to coöperate to this end, what laboratories there are possessing the required facilities for carrying on a work of this nature, and what work has in them been accomplished in the identification and differentiation of species, beg you to inform us whether you or any of those working in your laboratory are willing to coöperate in this work. At the same time (in order that the sub-committee may without delay be enabled to lay the framework of a scheme of combined work before those interested), we shall be thankful to you if you will aid us by answering the following questions at your very earliest convenience:

1. What evidence has been obtained in your laboratory as to the variability of species?
2. What culture media have you in most common use?
3. Will you kindly give us as detailed a description as your time will permit of the composition and methods of preparation of the various culture media employed in your laboratory?
4. What system do you follow in the employment of the various media for the identification of species?
5. Can you mention any special points in the preparation and employment of media, which you hold to be of material aid in the identification of species?

Inasmuch as most of these questions admit of being answered at varying length, according to the opinions and experience of different observers, we have thought fit not to print them on spaced forms. We would esteem it a favor if they be answered by number and in such a way that each reply may be tabulated and preserved. And as this may be the first of a series of letters we would suggest that, for future reference and correspondence, copies be kept of the replies sent by you.

We inclose an extra copy of this letter, begging you to give it to any one whose name is not upon the inclosed list of those to whom the letter is being addressed in the first place, who in your opinion is likely to coöperate in the event of the scheme here indicated being found practicable. We are, Sir, Yours faithfully,

C. SMART, M.B. M.Ch.,
Major and Surgeon U. S. Army, Chairman of the Committee on Pollution of Water Supplies, A. P. H. A.

G. W. FULLER, Sc. B.,
Biologist in charge of the Lawrence Experimental Station, Massachusetts State Board of Health.

WYATT G. JOHNSTON, M.D.,
Bacteriologist to the Board of Health of the Province of Quebec.

J. GEORGE ADAMI, M.A., M.D.,
Professor of Pathology, McGill University, Montreal.

The First Recorded Death in Hypnosis.—The death of Ella Salamon, in Tuzer, Upper Hungary, at her home, on Sept. 17, 1894, while in an hypnotic state, has attracted much attention, owing to the fact that it is the first recorded instance of death of this kind. We are able to give the following abridged statement from the pen of Dr. William von Vragassy, who was visiting at the home of Count László Forgách, an uncle of the unfortunate victim, and who was present during the hypnotic experiment, and witnessed her death and the subsequent autopsy:

"Miss Salamon was hypnotized in the presence of her parents and several relatives and friends; the operator, Mr. Neukomm, with the permission of the family and a full understanding with Miss Salamon, wished to induce in her an hypnotic state to gain information concerning the illness of the operator's brother, about whose malady the attending physicians differed. As Miss Salamon passed into hypnosis she seemed to be fatigued. The operator explained that he would attempt a very interesting experiment. He stated that for some time his brother, in Werschetz, had been raising blood, and the physicians could not agree that it came from the lungs or the stomach. Calling upon Miss Salamon to exercise clairvoyance while hypnotized, she gave a wonderful description of the patient's lungs, with the topography, pathology, diagnosis and prognosis. The operator said to her: 'We are now in Werschetz; do you see my brother?' 'I do not see him,' she replied. He then explained to her the location of the house in which his brother lived, and said: 'My brother is in the third room.' 'Yes, yes!' said the subject, in tones of conviction, 'we are there.' 'How is my brother?' he questioned. She replied: 'He is very ill.' In answer to more questions, the subject then went on to explain the details of the patient's malady. She spoke of the lungs of the distant patient as though they were before her on a plate. She used technical language with the greatest exactness, though she had never had medical training. After this, the subject's face was very pale and she seemed exhausted. The operator asked her a final question: 'What do you think of my brother's disease?' With difficulty she answered, 'Be prepared for the worst.' At that instant she fell from her chair with a hoarse cry; her tongue protruded from her mouth, and she became collapsed. Her head was lowered, clothing loosened, artificial respiration performed after Sylvester's method, and ether injections given; later she was wrapped in blankets, but she died almost in a few seconds in spite of all.

"The autopsy was conducted by an assistant in the Pathologic Institute in Buda-Pesth in the presence of Dr. Jozsás and myself. The brain exhibited a high degree of anemia and consecutive malnutrition, with indications of edema; otherwise there was no abnormality. I consider the causes of death, acute anemia of the brain, incident to the hypnotic state, with syncope and heart failure."

Professor R. von Krafft-Ebing writes: "According to reports, the case is so unheard-of that there must have been concurrence of quite extraordinary circumstances. In medical experience it is the first case of death in hypnosis. Inasmuch as there are thousands of hypnotic experiments performed daily by the laity without injury to health, one must regard this exception as inevitable.

"There is no doubt that Ella Salamon died in hypnosis, but that she died by hypnosis is questionable. In the absence of a history of her life and a detailed description of her mental and physical condition during the fatal hypnosis, the manner of death can not be determined with certainty.

"It appears that Miss Salamon was about 23 years old, very nervous, and that she had often been hypnotized. On this occasion she seemed weary. The hypnotizer, in accordance with an unscientific belief of the laity, induced in her an alleged capability of clairvoyance, which for a person so intelligent as Miss Salamon, was a new and very trying experiment, calculated to cause her great emotional excitement. Miss Salamon then exerted herself, according to report, to be agreeable and useful in the suggested capacity. While in the hallucinatory state she believed that she saw a diseased lung, and she gave a long description of the pathologic condition, in an excited and agitated manner. The final question of the operator had an intense emotional effect on her, and caused her collapse.

"The brief report of the autopsy leaves no doubt that she died of cerebral anemia. It can be certainly stated that she did not die of suffocation (there was no spasm of the tongue); nor from cerebral hemorrhage; and not from auto- or imparted suggestion—causes which might prove fatal under certain circumstances. All the symptoms given point to the brain as the organ concerned in inducing death, but it is uncertain whether through serous apoplexy or so-called nervous apoplexy.

"The question of the cause of death in this case probably permits this answer: The unskilful use of hypnotism by a layman and the unusually violent cerebral excitement stand as the causes of death; but it must also be considered that the victim was probably a morbidly constituted person, with a personality which reacted abnormally to stimulation, and whose death might have been hastened when awake by a violent psychic force.

"This case teaches that the laity should not practice hypnotism; that one must not play with hypnosis. In Austria there is an enactment of Oct. 26, 1845, which permits only authorized physicians the use of magnetism (hypnotism), and makes its use by others punishable."

Washington Notes.

THE SIBLEY MEMORIAL HOSPITAL, adjacent to the Deaconess Home, 1140 North Capitol Street, will be dedicated Friday, October 19, at 2 P.M. Bishop Bowman, Bishop Hurst Mrs. Clinton B. Fisk, Dr. Wilson, Dr. Widerman, Dr. Naylor, Dr. Brown and B. H. Warner will take part in the exercises.

OUT-DOOR MATERNITY SERVICE.—The maternity service of the Central Dispensary and Emergency Hospital is now in operation and will give assistance to many poor families and instruct the undergraduate and beginning practitioner. The officers are Dr. H. L. E. Johnson, in charge; Dr. Edward E. Morse, Associate Chief; Drs. R. D. Boss, James Stuart and F. C. Boyer, Assistants.

SMALLPOX AND CHICKENPOX.—A baby from South Pomfret, Vt., arrived here three weeks ago with what was claimed to be "confluent chickenpox," and died last week. The colored girl who washed the clothing of the child, was sent to the pest-house suffering with smallpox. The Health Officer, Dr. Woodward, has taken measures to prevent the spread of the disease.

MEDICAL SOCIETY OF THE DISTRICT.—At the Wednesday meeting of last week, Dr. Nason read the history of, and presented a patient suffering with unilateral hypertrophy. The entire right half of the body was involved. Dr. Neker presented a specimen of malformation of the heart and read the history of the case. The origin or cause of an abscess in the brain in this case brought out an interesting discussion. Dr. Lamb made the following report on the specimen:

"The malformed heart of a child 9 years old. The aorta and pulmonary artery are transposed; the former arising from the right ventricle, the latter from the left ventricle; the latter, however, arises as a cul-de-sac and there is a rudimentary valve. The foramen ovale is large and patulous. There is a large opening in the upper part of the interventricular septum. The blood of the auricles and ventricles therefore commingled. The ductus arteriosus is obliterated. The lungs were supplied with blood by a right and left pulmonary branch which were given off from the transverse arch of the aorta, in addition to the usual branches. The entire assemblage of anomalies dates back to about the seventh fetal week, perhaps earlier; and makes rather a unique picture. A small extra ventricular abscess of left middle lobe 1x2 inches."

THE WASHINGTON OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—The annual business meeting of the Society was held on the 19th inst., for the election of officers and resulted as follows: Drs. H. D. Fry, President; S. S. Adams, and G. B. Harrison, Vice-Presidents; G. W. Cook, Recording Secretary; W. S. Bowen, Corresponding Secretary; Committee on Business, Drs. J. T. Winton, F. S. Nash and E. L. Tompkins. Committee on Admission, Drs. J. F. Scott, L. Elliott and H. L. E. Johnson. Committee on Publication, Drs. G. W. Cook, L. Elliott, H. B. Deale and W. M. Sprigg. Committee on Microscopy, Drs. G. N. Acker, Brown and Scott. The following named gentlemen were unanimously elected

to Honorary Membership: Drs. H. P. C. Wilson, of Baltimore; Theophilus Parvin, of Philadelphia; W. T. Lusk, of New York; Matt D. Mann, of Buffalo; John P. Reynolds, of Boston; John Byrne, of Brooklyn.

THE HEALTH DEPARTMENT,—under date of Oct. 13, 1894, reports a decrease in the mortality of the city. "In face of the cold and changeable weather which prevailed last week, there was a decided decline in the number of deaths as against that of the previous week. The decrease amounted to nearly 20 per cent. and the death rate fell from 21.7 to 17.5 in that time. The improvement was general. There were very many less deaths comparatively among both the aged over 60 years and the children under 5 years old. There was a continued absence of fatal forms of contagious diseases, except the six cases of diphtheria and of the various malarial ailments. The health of the city is good and the present hygienic conditions are only a continuation of the same favorable state characterizing the present fiscal year. During last year there were four hundred and thirteen less deaths than in the preceding year, and the returns of the first quarter of the present fiscal year show a falling off of one hundred and twenty-eight up to the first day of this month.

St. Louis Notes.

DR. GIVEN CAMPBELL, JR., has resigned the Chair of Bacteriology in the Marion-Sims College of Medicine, St. Louis, on account of ill health. Dr. Hugo Summa has assumed the duties of the chair made vacant, by adding them to his work as Professor of Pathology.

ST. LOUIS ELECTRIC STREET RAILWAYS.—The electric street railway companies of St. Louis are thoroughly awakening to the importance of precautions against liabilities for injury of passengers and others. The evidence of this is a new regulation that will soon be enforced, namely, a thorough ophthalmologic examination of all persons employed in the running of the cars. The wisdom of such a departure is at once apparent when it is remembered that among the hundreds of men thus employed visual anomalies can not but occur in their common proportion, and that the safety of passengers and persons on foot often depends upon the accuracy with which the motor-men and conductors instantaneously calculate distance when standing on a rapidly moving car. Probably the contingency of an accident where a motor-man or conductor could be shown to have defective vision, and the certain liability of the company under such circumstances, have led the managements of the roads to consider the adoption of this safeguard. This is only another instance where the selfish interest of corporations steps in to make regulations to insure the safety of the public where the government granting such corporations charters has neglected to do its duty and insist upon the safeguards that science has shown to be reasonable and necessary. It is to be hoped that every road in the city will follow the example of those that will require the necessary standard of vision in their employes.

THE *Occidental Medical Times* contains an allusion to St. Louis from the pen of Dr. Albert Abrams, of San Francisco, that seems to call for comment. After enumeration of an unheard-of number of medical colleges, he continues: "I overheard the following conversation between two men in St. Louis: Said the one, 'Hullo, Bill! you aint driving a car no more?' 'No,' said Bill, 'it's hard work; and besides that, I'm going to become a doctor. It's a blamed sight easier to wear a plug hat and glasses than to drive a car. Doc. (referring to a professor in a regular school) said I'd get through all right if I paid the fees.' This, I hope, will not be accepted as an apt illustration of the status of medical education in St. Louis." There need be no fear that this medical joke will pass in St. Louis as an "apt illustration" of anything but the tendency there is in all humorists, born, made, lay and medical, to make the facts support the witticism invented for the occasion. Had the reported conversation been decked out with a few St. Louis colloquialisms the writer might have convinced St. Louisians that he really knew "where he was at" when sojourning here. But the "conversation" contains the strongest evidence of its artificial nature; there are no car-drivers in St. Louis, for she now boasts of only motor-men and conductors. No, this is not quite true; there are a very few car-drivers on one insignificant line where the cars run only frequently enough to keep the charter, and it must be granted that possibly the Doctor overheard an ex-driver of this line. What a pity the name of the professor in a regular school alluded to was omitted; but possibly it could not be recalled.

Louisville Notes.

GRAND LODGE OF THE STATE OF KENTUCKY.—At a meeting of the Grand Lodge of the State of Kentucky just adjourned, it was decided unanimously to celebrate the centennial of the Grand Lodge in 1900 by dedicating a Masonic Infirmary, which is to be built as an adjunct to the Masonic Widows' and Orphans' Home, now so prosperous. There was much enthusiasm displayed and steps taken at once to raise the funds with which to begin the work.

WATER SUPPLY.—The citizens have been much wrought up over the condition of the city water supply; as it has transpired upon investigation by Health Officer White that the basins had not been cleaned since their erection some eleven years ago. The Water Company sold the fish in the reservoirs to a local dealer for $200, and several thirty and forty pound fish were caught, beside numberless small ones. The question of filtration of the city water supply is being agitated and it is very much desired that some means will be found that will make it practicable.

OPENING OF THE SCHOOLS.—The fall schools have gotten under full sway again for the session of 1894-95. Owing to the general adoption of the three-year graded course the schools have opened this year with fewer matriculates than heretofore. There have been some changes in the faculties, but they are practically the same as those of last year. In the Louisville Medical College, Dr. J. G. Cecil occupies the Chair of Practice, held for so many years by Dr. W. H. Galt, deceased, who was also for many years Health Officer of this city. Dr. Robert Sievers is Lecturer upon Pediatrics. The spring schools are equipped and ready for work; the Hospital College occupies its new building as does the Kentucky School of Medicine, which has about completed a commodious Dispensary and Hospital adjoining its old building.

NOTIFICATION OF CONTAGIOUS DISEASES.—Louisville is very much behind many of her sister cities, in that there is no law here requiring the reporting of contagious diseases, or an appropriation sufficient to enable the Department to properly isolate and disinfect houses where such diseases exist. There has been more than the usual amount of diphtheria in the city of late, not an epidemic but an unusual prevalence, and the President of the State Board of Health, Dr. Mathews, and the local Health Officer are using all of their influence to have a contagious-disease act passed by the Council. The one prepared for presentation to that body is a very comprehensive one, and will enable the Health Officer to do good work toward the prevention of the spread of contagious diseases.

DIPHTHERIA.—An epidemic of diphtheria was reported to the State Board of Health at its last meeting, as raging in the city of Frankfort, this State. Dr. H. E. Tuley, of this city, was sent as its representative to assist the local authorities in the suppression of the trouble. The public schools were found closed, and upon investigation it was ascertained that there had been some twenty-nine cases with nine deaths, and no effort at isolation or disinfection. This was owing to the fact that there was no local Health Board to control it, the old Board having resigned owing to a misunderstanding of the new law recently passed. A special meeting of the Council was called by the Mayor, a

Board appointed and a very comprehensive and thorough law passed giving full power to the Board to act in all such epidemics. Since, there has been no further trouble.

THE PUBLIC SERVICES.

Promotion in the Hospital Corps, U. S. Army.

Surgeon-General Sternberg, under date October 10, issued a circular relating to promotion of deserving men in the Hospital Corps which may be regarded as a continuation of that of October 2 relating to enlistments in the Corps, an abstract of which was given in the JOURNAL of October 20. Those eligible for detail as acting hospital stewards are privates who have served one year or more in the Hospital Corps and have displayed particular merit; but those who have had previous service as non-commissioned officers in the line or who have special training in civil life, such as a course at a college of pharmacy or training school for nurses may not be required to serve the full year of probation. No person is eligible for promotion to the position of hospital steward unless he has demonstrated his fitness therefor by service of not less than twelve months as acting hospital steward. The examination for acting hospital steward and hospital steward will embrace the same subject-, but the questions for candidates for the lower grade will be less difficult and less comprehensive. Formerly minor surgery and elementary hygiene, a knowledge of which was required on the part of the steward, were not included in the scheme of examination for the lower grade. A reëxamination before first reënlistment may not be required of a hospital steward if the post surgeon and medical director state that the steward has performed his duties well under the following headings: 1, physical condition; 2 character and habits, especially as to the use of stimulants and narcotics; 3, discipline and control of men; 4, knowledge of regulations; 5, nursing; 6, dispensary work; 7, clerical work; 8, principles of cooking and mess management; 9, Hospital Corps drill, and 10, minor surgery, first aid and elementary hygiene. Written questions on the following subjects are prepared and transmitted from the Surgeon-General's office: 1, arithmetic; 2, materia medica; 3, pharmacy; 4, care of sick and ward management; 5, minor surgery and first aid; 6, elementary hygiene. Proficiency in penmanship and composition are estimated from the papers submitted. In conducting the written examinations a second sheet of the questions sent from the Surgeon-General's office is not given to a candidate until he has completed his answers to those on the sheet already submitted to him. The questions submitted at one session are to be answered during that session. The board is required to certify that the replies were made without recourse to books, memoranda or other sources of assistance. The report of the board with the written examination papers are forwarded to the Surgeon-General in whose office they are examined and marked for the grading of accepted candidates. Assignments are made as far as practicable in order of merit from the list of passed candidates to fill vacancies occurring during the year. Those who from ordinary percentage fail to receive appointment during the year following their examination will be permitted to come up for competition with the next class to enable them to obtain a higher percentage and thus improve their prospect of appointment.

Army Changes. Official list of changes in the stations and duties of officers serving in the Medical Department, U. S. Army, from Oct. 19, 1894, to Oct. 19, 1894.

Capt. EUGENE L. SWIFT, Asst. Surgeon (Ft. Yates, N. D.), is granted leave of absence for one month, with permission to apply to the proper authority for an extension of one month.

First Lieut. ISAAC P. WARE, Asst. Surgeon, so much of par. 1, S. O. 223, A. G. O., Oct. 2, 1894, as directs him to report to the commanding officer, Camp Eagle Pass, Texas, after his relief from duty at Ft. Supply, is so amended as to direct him to report in person to the commanding officer, Ft. Clark, Texas, for duty at that post. By direction of the Acting Secretary of War.

NAVAL MEDICAL SERVICE.

A candidate for examination and appointment in the Medical Corps of the Navy must be between 21 and 26 years of age and must apply to the Honorable Secretary of the Navy for permission to appear before the Naval Medical Examining Board. The application must be in the hand writing of the applicant, stating age and place of birth, also, the place and State of which he is a permanent resident; and must be accompanied by letters or certificates from persons of repute, testifying from personal knowledge to his good habits and moral character and that he is a citizen of the United States.

On receipt of the desired permit he has to notify the President of the Board of the fact and request him to appoint a time for his examination. He will be expected to present to the Board, testimonials of educational and professional fitness. The Board is required under oath to report on the physical, mental, moral, and professional qualifications of the candidate, so that the examinations are necessarily rigid and comprehensive, though simple and practical, and not beyond the attainments of any well educated physician. No allowance is made for the expenses of such persons undergoing examination, which, if uninterrupted, is usually completed within a week or ten days. An applicant found "not qualified" may be allowed a second examination after one year, but not a third. Appointments are made as vacancies occur, and in the order of merit reported by the Board to qualified candidates not appointed within a year, must be reëxamined. However, for many years vacancies for successful candidates have always existed. The examinations are held at the Naval Laboratory and Department of Instruction, Brooklyn, New York, or at the Naval Hospital, Mare Island, California where there are permanent boards. There are no fees. The order of examination is 1, Physical. 2, Oral. 3, Written. 4, Clinical, and 5, Practical.

The physical examination is very thorough. The oral and written examinations are on the following subjects: General history, natural science, botany, geology, zoology, general literature, anatomy, histology, physiology, theory and practice of medicine, principles and practice of surgery, chemistry, legal medicine, toxicology, materia medica, therapeutics, pharmacy, obstetrics and diseases of women and children, hygiene, quarantine, and microscopy. The clinical examination of patients is made at a naval hospital and includes the use of the microscope, thermometer, laryngoscope, ophthalmoscope and other aids to physical diagnosis, and a written clinical report on one or more medical or surgical cases. The practical examination comprises surgical operations on the cadaver, the application of splints, bandages and surgical dressings, the use of the microscope for clinical purposes, and chemic and pharmaceutic manipulations. Candidates possessing special knowledge of the higher mathematics, literature, art, and ancient and modern languages are given full credit for their proficiency. After having passed this examination, the successful candidate, having been commissioned an assistant surgeon, is sent to the Naval Laboratory and Department of Instruction for a three months' course in the special duties required of him in the service. This school was established recently. It requires no fees and is devoted exclusively to special instruction of medical officers recently admitted to the service. The staff consists of members of the Naval Medical Examining Board and the medical officers on duty at the Naval Hospital. The subjects taught are 1, Chemistry, analytical and organic. 2, Hygiene and Sanitary Science. 3, Microscopy and Microbiology. 4, Military Surgery and operative work. 5, Clinical medicine and hospital work. 6, Construction and ventilation of modern war ships. 7, Examination of recruits and life-saving methods. 8, Navy regulations, navy ration, hospital fund, pension fund. 9, Keeping medical records at hospitals and on board vessels of war, and blank forms pertaining to Bureau of Medicine and Surgery. These subjects are taught with special reference to the needs and requirements of the naval service, and therefore embrace particularly gunshot and other wounds, transport of sick and wounded on ships of war and shore, recruiting, tropical and other diseases to which sailors are exposed in service, examination of water and air, general principles of diet, examination of food, sanitary requirements of ships, hospitals, and camps, clothing, prevention of disease, disinfection of ships, quarantine, etc.

The officers under instruction are under no expense for quarters and as members of the Medical Corps, draw their full shore pay.

After having passed through this excellent course of instruction, under skilled leaders in each special branch, they are examined on the subjects taught and the record of each, together with his other examination papers is bound and kept in the Bureau of Medicine and Surgery as a guide in assignment to duty according to professional and other qualifications. Each assistant surgeon is examined at the expiration of three years' service, and, if successful becomes a passed assistant surgeon.

MEDICAL STAFF OF THE NAVY.

The officers of the Medical Staff of the Navy are as follows: Medical Directors, Medical Inspectors, Surgeons, Passed Assistant Surgeons and Assistant Surgeons. Vacancies in the grades (by death or retirement at the age of 62 or for other causes) are filled in the order of seniority, and for each step of promotion a physical and professional examination is required.

Rank and Pay Table.	At Sea.	On Shore Duty.	On or Leave or Waiting Orders.
Assistant surgeons	$1,700	$1,400	$1,000
Passed assistant surgeons:			
First five years after date of appointment	2,000	1,800	1,500
After five years from date of appointment	2,200	2,000	1,700
Surgeons:			
First five years after date of commission	2,800	2,400	2,000
Second five years after date of commission	3,200	2,800	2,400
Third five years after date of commission	3,500	3,200	2,600
Fourth five years after date of commission	3,700	3,600	2,800
After twenty years from date of commission	4,000	4,000	3,000
Fleet surgeons	4,400		
Medical directors and medical inspectors at sea	4,400		

LETTERS RECEIVED

Anderson, Winslow, San Francisco, Cal.; Atkinson, W. B., (2) Philadelphia, Pa.

Busey, S. C., Washington, D. C.; Beck, Carl, Chicago; Bleyer, J. M., New York, N. Y.; Bentley, E., Little Rock, Ark.; Beuchel, Oscar B., Battle Creek, Mich.; Brown, E. J., Minneapolis, Minn.; Becker, B., Toledo, Ohio; Burnett, C. H., Philadelphia, Pa.; Bryant, Jos. D., New York City, N. Y.; Bryce, S. H. Toronto, Canada.

Coleman, W., Franklin, Chicago, Ill.; Colton, A. C., Chicago, Ill., Cole, J. D., Newport, Penn.; Chaddock, C. G., St. Louis, Mo.; Cunningham, T. E., Cambridge, Mass.

Dunlap, H. M., Battle Creek, Mich.; Dana, C. L., New York.

Engleman, Rosa, Chicago, Ill.; Earle, C. A., Des Plaines, Ill.

Fullerton, J., Dubuque, Iowa.

Griffith, J. D., Kansas City, Mo.; Goss, E. L., Sheffield, Iowa; Gallup, Benj. E., Chicago, Ill.; Genoway, Chas. V., Wallace, Idaho; Gernard, G. S., Ardmore, Pa.

Hummel, A. J., Philadelphia, Pa.; Hann, John W., Wauneta, Neb.; Holland, W. B., Elkhart, Ind.; Hibberd, Jas. F., Richmond, Ind.; Hopkins, J. G., Thomasville, Ga.

Johnson, H. L. E., Washington, D. C.

Leutz, Chas. & Sons, Philadelphia, Pa.; Lamb, D. S., Washington, D. C. Mason, G. M., Philadelphia, Pa.; Mutual Life Insurance Co., New York, N. Y.; McDonell, J. A., Chicago, Ill.; Mercer Chemical Co., Omaha, Neb.; Martin, Franklin H., Chicago, Ill.; McGuire, Hunter, Richmond, Va.; Maltine Mf'g Co., New York, N. Y.

Norbury, F. P., Jacksonville, Ill.; Newman, H. P. Chicago, Ill.

Portman, Adeline F., White Oaks, N. M.; Post, M. H., St. Louis, Mo.; Pepper, Wm., Philadelphia, Pa.; Phelps, A. M., New York City, N. Y.

Reinhard, Carl, Milwaukee, Wis.; Rogers, W. B., Memphis, Tenn.; Reyburn, Robt., Washington, D. C.; Rosenfeld, S., San Francisco, Cal.

Scheiffelin, W. H., & Co., New York, N. Y.; Spamer, F., Chicago, Ill.; Searby, W. M., San Francisco, Cal.; Smart, Chas., U. S. A., Washington, D. C.; Stewart, J. G., Walarba, Pa.; Sternberg, Geo. M., Washington, D. C.; Sullivan, C. P., Withee, Kan.; Smith, M. B., Minneapolis, Minn.; Small, E. H., Pittsburg, Pa.; Schiller, L., Milwaukee, Wis.

Tuley, H. E., Louisville, Ky.

Woman's Medical College, New York, N. Y.; Woodward, J. H., Burlington, Vt.; Wright, J. P., St. Louis, Mo.; Wyckoff, R. M., Brooklyn, N. Y.; Weaver, Geo. H., Chicago, Ill.; Welch, W. H., Baltimore, Md.; Work, J. A., Elkhart, Ind.; Woodburn, T. C., Indianapolis, Ind.; Woodbridge, J. E., Youngstown, Ohio; Woodruff, Chas. E., U. S. A., Ft. Sheridan, Ill.